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ABSTRACT

Presented are training materials for use in a teachers' workshop--providing methods for teaching essential skills to students with learning difficulties and planning individual instructional sequences as students' skill needs change. Included are the following ten modules: (1) defining the problem and identifying what will meet the student's needs, (2) task analysis, (3) error pattern analysis, (4) systematic inquiry, (5) discovering what Sally can and can't do and setting priorities, (6) behavioral objectives, (7) learning methods, (8) task analysis of materials, (9) matching learner characteristics with material characteristics, and (10) designing materials for the educationally handicapped. Each module contains three sections titled "Facilitator Notes", "Activity Notes", and "Activity Sheets"; and some contain sections for worksheets, recording sheets, activities completed by other participants, demonstrations and articles. Appended are notes on the module tests and the global test given to participants; the tests and answer keys; additional evaluation procedures; and bibliographies of articles, books, and tests. (IM)

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INFORMAL DIAGNOSIS AND PRESCRIPTIVE PROGRAMMING: A WORKSHOP

Midwest Regional Resource Center
1332 - 26th Street
Drake University
Des Moines, Iowa
1976

EC092050

The "Task Analysis," "Error Pattern Analysis," "Systematic Inquiry," and "Designing Materials for the Educationally Handicapped " modules included in this manual were originally prepared by the staff at the Midwestern Educational Resource Center in Coralville, Iowa. They were revised by staff at the Midwest Regional Resource Center in Des Moines, Iowa and other consultants. This staff also prepared six modules, "Defining the Problem and Identifying What Will Meet the Student's Need," "Discovering What the Child Can and Can't Do and Setting Priorities," "Behavioral Objectives," "Learning Methods," "Task Analysis of Materials," and "Matching Learner Characteristics with Material Characteristics."

These modules are expected to be adapted to meet the individual needs of the workshop participants. The activity notes are to be used by the facilitator in a manner consistent with his/her facilitator style. They are not to be considered scripts but rather guides.

Every module contains three sections titled "Facilitator Notes," "Activity Notes," and "Activity Sheets." These are designated by the blue, green and yellow pages. Some of the modules contain sections for worksheets, recording sheets, activities completed by other participants, demonstrations and articles. These are also designated by different colored pages.

Although the pre- and post tests have been given, analyzed and improved, further analysis is required to determine their reliability and validity. Therefore, the appendix includes suggested "Additional Evaluation Procedures" that a facilitator may use.

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INTRODUCTORY INFORMATION

OVERVIEW

What happens when a child begins experiencing difficulty with learning the subject matter which is presented in the classroom? In many situations, frustration becomes the key word both for the child and the teacher. For the child, failure soon surrounds each subject, each assignment, each task. For the teacher, attempts to change this pattern yield little if no significant results.

The following training activities represent an attempt to change this cycle to one of success -- the success of a child mastering essential skills and progressing through the content of the given subject; the teacher successfully planning instructional sequences which are appropriate to the child's changing skill needs.

The sequence of training presented is analogous to the steps taken in any design process - in this case, the design of instruction. Beginning with the question, "What must be done?", the examination of instruction begins with the basic unit of the task.

Through careful analysis, the requirements for successful task completion are specified. These requirements or subtasks then become the frame of reference for observing the performance of the child. By working with simpler, more managable units, the child's unique instructional needs become apparent.

The teacher may begin to detect patterns in the child's responses which provide direction for decisions regarding possible solutions.

The next phase of the design process involves the deliberate altering of the task that is presented to the child and observing the resulting behavior -- "What effects do these changes make in the child's response?" More information is gained about the child's performance while the teacher identifies how best to design a program. What additional clues are meaningful to the child? What clues are confusing? How much information can be presented at one time? In what format? What level of abstraction can the child understand? What is the child's preferred response mode? How dependent/independent is the child? How much practice is appropriate?

The blending of testing and teaching, diagnosis and prescription, occurs as the teacher notes the differing responses of the child to the alteration of the task. From this data base, the specific objectives for the child evolve. Concerns regarding what to teach, when and how can be decided and formulated into a sequence of objectives. By continuing to monitor the response of the child to the planned instruction, appropriateness and/or need for revision can be determined.

The training sequence does not address itself to the elements of motivation and reinforcement. Recognizing the importance of these variables throughout the design process, the teacher can be alert for effective ways of engaging the child's attention and interest and maintaining that involvement. How can activities be designed to motivate the child without distracting from the substance of the task? What will the child work for within the range from tangible reinforcers to knowledge of successful performance?

These training materials are based on the premise that teachers can gather the necessary information to make instructional program decisions. The focus is on the information which is presented to the teacher every day -- the child's response to the present program. This is a dynamic process which changes as the child and the teacher's view of the child changes. Within the constraints of time and resources, it offers an alternative approach to meeting the needs of children experiencing learning problems.

SCHEDULE FOR A FIVE DAY WORKSHOP

Monday

- Welcome and Overview
- Defining the Problem & Identifying What Will Meet the Student's Need
- Task Analysis

Tuesday

- Task Analysis
- Error Pattern Analysis
- Systematic Inquiry

Wednesday

- Systematic Inquiry
- Discovering What Skills a Child Can and Can't Do
- Setting Priorities for Children
- Writing Behavioral Objectives

Thursday

- Learning Methods
- Task Analysis of Materials

Friday

- Matching Learner Characteristics with Material Characteristics
- Designing Materials for the Educationally Handicapped (Designo)
- Final Summary

SUGGESTED SEQUENCE OF PRESENTATION OF THE MODULES

1. Introduction
2. Module 1: Defining the Problem & Identifying What Will Meet the Student's Needs
3. Module 2: Task Analysis
4. Module 3: Error Pattern Analysis
5. Module 4: Systematic Inquiry
6. Summary of Defining the Problem & Informal Diagnostic Modules
7. Module 5: Discovering What Sally Can & Can't Do and Setting Priorities
8. Module 6: Behavioral Objectives
9. Module 7: Learning Methods
10. Summary of Behavioral Objectives and Learning Methods Modules
11. Module 8: Task Analysis of Materials
12. Module 9: Matching Learner Characteristics with Material Characteristics
13. Module 10: Designing Materials for the Educationally Handicapped (Designo)
14. Final Summary

Activity Notes for the Introductory Presentation

I. Welcome

II. Warm-up activity

   A. We have some things to go through, but before we do that, I'd like to get to know some of you better and I'm sure many of you are curious about who's here.

      1. Please take about 5 minutes to write down 5 sentences about yourself that start with the word "I"...

      2. After you're finished, pin your sentences onto your name tag.

      3. Then we'll take about 10 minutes and walk around the room getting to know each other.

         a. pick out those you don't know well
         b. read their sentences
         c. ask questions about them and so forth

      4. Try to meet as many different people as possible.

III. Ground Rules

(HAND OUT SCHEDULE)

   A. We will start promptly at 8:30 and end at 4:30.

   B. There will be 1 hour for lunch.

      1. What time we break for lunch will vary depending on where we are in the presentation

      2. Two or three nights this week you will be asked to read a chapter in a book or to read a handout.

      3. There is a flow to these presentations so if you miss one, it will be difficult for you to participate in the others.

      4. If you know now you will be missing one of the sessions, please see me so we can make some arrangements.

      5. Feel free to go for coffee etc. when you wish.

         a. it won't bother us unless all of you run out at the same time - then we'll wonder

      6. Also, please feel free to ask questions and make comments. We appreciate your input.

   C. Questions?

IV. Pre-Test

A. Before giving you an overview of the workshop, please take about twenty minutes to do the pretest.

(HAND OUT THE PRETEST)

1. Please don't be worried if you can't answer some of the questions for I know some of this terminology is new to you.

2. Answer them the best you can. It won't affect your grade if you're planning to take it for credit.

3. Put your name or your first and last initials on it.

   a. we will be giving you the same test at the end of the week so we need to be able to compre your pre- and post-test results.

V. Overview of the Workshop

A. What happens when a child begins experiencing difficulty with learning the subject matter which is presented in the classroom?

1. In many situations, frustration becomes the key word both for the child and the teacher.

2. For the child, failure soon surrounds each subject, each assignment, each task.

3. For the teacher, attempts to change this pattern yield little if no significant results.

B. The following training activities represent an attempt to change this cycle to one of success.

1. The success of a child mastering essential skills and progressing through the content of the given subject, and

2. The teacher successfully planning instructional sequences which are appropriate to the child's changing skill needs.

C. Beginning with the question, "What must be done?", the process begins by defining the child's problem and identifying areas for further exploration that may yield more information about his problem.

D. After these areas have been identified, several informal diagnostic methods for gathering such information are presented.

1. The first, task analysis, examines the basic unit of instruction - the task.

a. Through careful analysis, the requirements for successful task completion are specified. These requirements or subtasks then become the frame of reference for observing the performance of the child.

b. By working with simpler, more managable units, the child's unique instructional needs become apparent.

(PUT A TRANSPARENCY OF THE SUBTRACTION WORKSHEET ON THE OVERHEAD AND HAND OUT ONE COPY OF IT TO EVERY PARTICIPANT.)

c. Let's say your objective was to have a child complete this subtraction worksheet. By carefully analyzing this worksheet, you could determine what the child needed to do to complete it successfully.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE FOLLOWING.)

d. The tasks the child would need to do to complete the worksheet are:

1) Attends to the worksheet
2) Demonstrates an understanding of the key words in the directions (subtract)
3) Matches correct quantity with correct number symbol.
4) Demonstrates an understanding of the meaning of the symbols -, =, ____
5) Moves from left to right
6) Finds the difference
7) Writes the numeral on the blank line

e. Task Analysis can be used as a diagnostic and as a remedial technique.

1) To use task analysis as a diagnostic technique you construct an informal test to give the child to see if he can do each of the subtasks

2) In this example, I would check to see if the child:
   a) was attending to the task. I would first define what attending behavior was. Let's say it was looking at the page for one minute. Then I would check to see if the child was doing that.
   b) knew what "subtract" meant. I would ask him to verbally tell me what "subtract" means.
   c) knows the correct match of each symbol to it's quantity. I would show him the numerals, 0-6, each one a separate card, and ask him to show me that many fingers.
   d) knows the symbols, -, =, ____. I would show him each symbol on a separate card and ask him to tell me what each one means.
   e) begins on the left. I would ask him to show me where he starts.
   f) can complete the process of finding the difference. I would ask him to tell me aloud everything he is

doing when he works a problem
- g) can write the numerals. I would ask him to write each numeral, 0-6, as I dictated them to him.

f. We'll explain the use of task analysis as a remedial method later.

2. The second method of informal diagnosis is error pattern analysis.

   a. The teacher uses this technique to detect patterns in the child's responses.
   b. These patterns provide her with information to make decisions regarding possible instructional solutions.
   c. Let's say the child is asked to do a worksheet and he completes it in the following way.

(PUT THE COMPLETED SUBTRACTION WORKSHEET TRANSPARENCY ON THE OVERHEAD AND DISTRIBUTE ONE COPY TO EACH PARTICIPANT.)

1) in Error Pattern Analysis, we try to discover the the pattern of errors.

(CIRCLE THE ERRORS ON THE TRANSPARENCY.)

2) on this example, the child is exchanging the quantity of the numeral symbols 5 and 6.

3) we would state this tentative conclusion using observable terms, that is, words that describe something that can be seen, heard, measured or counted. Such a tentative conclusion might be that the child matches the symbol 5 with the quantity 6 and the symbol 6 with the quantity 5.

3. The next phase of the informal diagnostic process, involves the deliberate altering of the task that is presented to the child and observing his resulting behavior. The question "What effects do these changes make in the child's response?" is asked in this procedure.

   a. More information is gained about the child's learning style which the teacher can use to design his program.

   b. Tasks are modified to assess the amount and kind of assistance the child needs to complete the objective. The following kinds of information might be gained through this process:

      1) What additional clues are meaningful to the child?
      2) What clues are confusing?
      3) How much information can be presented at one time?
      4) In what format?

5) What level of abstraction can the child understand?
6) What is the child's preferred response mode?
7) How dependent/independent is the child?
8) How much practice is appropriate?

c. Using the worksheet we used in Error Pattern Analysis as an example, some ways to restructure the task would be to:

1) Give the child a similar worksheet, but only include problems with numbers 0-5.

2) Ask the child to draw marks for the minuend and subtrahend and find the difference using the marks for the problems containing the numbers 5 and 6.

3) Use concrete objects for each of the problems containing the numbers 5 and 6.

E. After these three informal diagnostic modules have been presented, we'll begin examining prescriptive programming procedures. We have some diagnostic information about what skills the child can and can't do. We also have some data about the kind of errors he makes and how he learns.

The blending of testing and teaching, diagnosis and prescription, occurs as the teacher notes all of this information.

F. After reviewing this kind of data, priorities for the child's learning can be established. The module "Discovering What Sally Can and Can't Do and Setting Priorities" looks at methods for summarizing data and setting priorities.

G. From this data base, the specific objectives for the child evolve. Concerns regarding what to teach, when and how can be decided and formulated into a sequence of objectives. By continuing to monitor the response of the child to the planned instruction, appropriateness and/or need for revision can be determined.

H. After the objectives have been established, an instructional sequence can be designed to teach the child the objectives. The module, Learning Methods, explores different methods that could be used to write such a sequence.

I. In order to operationalize the instructional sequence and overall prescriptive program, educational materials will have to be selected. The next three modules, Task Analysis of Materials, Matching Learner Characteristics with Material Characteristics, and Designing Materials for the Educationally Handicapped, (Designo), examine the selection and design of educational materials.

J. Another way to look at the workshop sequence is to compare it to the continuum of services.

(PUT A TRANSPARENCY OF THE CONTINUUM OF SERVICES ON THE OVERHEAD.)

1. Identify the problem is the first step in the services offered to children with learning problems.

   a. The packet, "Defining the Problem and Identifying What Will Meet the Student's Need" will be discussed here.

   b. Diagnosing the problem contains three packets that will help gather informal diagnostic information. These are "Task Analysis, Error Pattern Analysis and Systematic Inquiry."

   c. When we discuss designing the prescription, we will look at the modules "Discovering What Sally Can and Can't Do and Setting Priorities," "Behavioral Objectives," "Learning Methods," "Task Analysis of Materials," "Matching Learner Characteristics with Material Characteristics" and "Designing Materials for the Educationally Handicapped (Designo)."

   d. Evaluating the prescription is discussed in terms of measuring the effectiveness of the prescription using behavioral objectives.

K. The training sequence does not address itself to the elements of motivation and reinforcement. However, recognizing the importance of these variables throughout the design process, the teacher should be alert for effective ways of engaging the child's attention and interest and maintaining that involvement.

   Some questions that teachers need to ask themselves about the elements of motivation and reinforcement are

   1. How can activities be designed to motivate the child without distracting from the substance of the task?

   2. What will the child work for within the continuum from tangible reinforcers to knowledge of successful performance?

L. These training materials are based on the premise that teachers can gather the necessary information to make instructional program decisions. The focus is on the information which is presented to the teacher every day---the child's response to the present program. This is a dynamic process which changes as the child and the teacher's view of the child changes. Within the constraints of time and resources, it offers an alternative approach to meeting the needs of children experiencing learning problems.

M. Any questions?

Use in initial demonstration
of Task Analysis
(V, D, 1, c.)

DEMONSTRATION TO USE IN THE INTRODUCTORY PRESENTATION

Subtract:

2-2= ____
2-0= ____

6-2= ____
6-4= ____

5-5= ____
5-4= ____

4-1= ____
4-3= ____

3-2= ____
3-1= ____

5-3= ____
5-2= ____

1-0= ____
1-1= ____

4-0= ____
4-4= ____

6-1= ____
6-6= ____

3-3= ____
3-0= ____

Use in initial demonstration
of Error Pattern Analysis
(V, D, 1, c.)

DEMONSTRATION TO USE IN THE INTRODUCTORY PRESENTATION

Subtract:

2-2 = 0
2-0 = 2

6-2 = 3
6-4 = 1

5-5 = 0
5-4 = 2

4-1 = 3
4-3 = 1

3-2 = 1
3-1 = 2

5-3 = 3
5-2 = 4

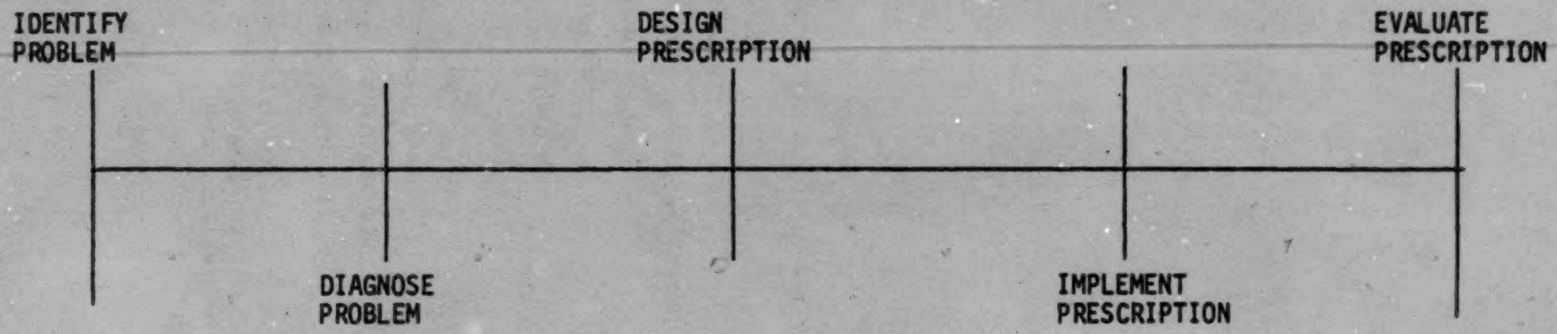
1-0 = 1
1-1 = 0

4-0 = 4
4-4 = 0

6-1 = 4
6-6 = 0

3-3 = 0
3-0 = 3

CONTINUUM OF SERVICES


IDENTIFY PROBLEM
DIAGNOSE PROBLEM
DESIGN PRESCRIPTION
IMPLEMENT PRESCRIPTION
EVALUATE PRESCRIPTION

MATERIALS LIST

The following are miscellaneous materials you may need for the workshop. Materials needed for specific modules (books, educational games, etc.) are mentioned in the activity notes.

Cassette recorders
Blank transparencies
Transparency pens
3 x 5 index cards
Stapler
3 hole paper punch
Lined paper
Masking tape
Construction paper (different colors)
Scissors
Overhead & screen
Magic markers (different colors)
Two long tables
Name tags
Straight pins

EVALUATION FORM

Activity:

Was the activity:

1	2	3	4	5
boring				highly motivating

1	2	3	4	5
not relevant to your needs				very relevant to your needs

Was the content of the activity:

1	2	3	4	5
not clearly presented				very clearly presented

1	2	3	4	5
not organized				well organized

Suggestions for changes:

Facilitator Notes for Defining the Problem and Identifying What Will Meet the Student's Need

This module presents a series of questions that, when answered, help participants define a child's problem and identify what will meet his needs.

It establishes a need for the participants to gather more diagnostic information in order to accurately define a child's problem and identify what will meet his needs. Informal techniques for collecting such data are then presented.

Objective of the Module

1. The participants will complete Worksheets 1, 2 and 3, defining a child's problem and identifying what will meet his needs, with 100% accuracy.

Materials Needed for the Module

Facilitator Materials	Participant Materials
Activity Notes	1 copy of Activity Sheet 1a per participant
1 transparency of Worksheets 1, 2 and 3	1 copy of Worksheets 1, 2 and 3 per participant
overhead	
marking pens	

Time Needed to Complete the Module

This module takes approximately forty-five minutes to complete.

Activity Notes for

Defining the Problem & Identifying What Will Meet the Student's Need

(HAND OUT WORKSHEETS 1, 2 and 3)

1. Take about three to five minutes to look these over.
2. Let's say that a child - Sally - is referred to you.
   a. She's in second grade.
   b. She's having trouble learning her beginning and ending consonant sounds.

(PUT THE TRANSPARENCY OF WORKSHEET 1 ON THE OVERHEAD)

3. The first thing we may want to do with this referral is to define the problem.
4. The first question to ask yourself when defining the problem is:

   1.1 Who is affected?

   The answer is Sally and her teacher.

5. Then we ask:

   1.2 What is the apparent skill deficit?

   She can't learn beginning and ending consonant sounds.

6. Next:

   1.3 What kind of skill deficit is it?

      a. What did we want the student to accomplish?

      To learn beginning and ending consonant sounds.

      b. What has been done? (What/How much did the student achieve)? Here we need specific information from the teacher to complete this. "Can't learn consonant sounds" isn't enough.

      She has learned the beginning sounds of c, l, m, r, s, t & w and no ending sounds.

7. Then, we ask:

   1.4 What remains to be done?

   She needs to learn 14 more consonant sounds and 21 ending sounds.

8. Next, we need to combine all of the above information into a statement of the problem.

   1.5 Problem statement:

An example of a problem statement is Sally's teacher wants her to learn 14 beginning consonant sounds and 21 ending ones.

9. Finally, ask yourself:

    1.6 Are there ways to meet this problem?
    At this point, yes.

10. Sally's problem is now better defined. However, we still need to pinpoint further what will meet her educational need.

(PUT TRANSPARENCY OF WORKSHEET 2 ON THE OVERHEAD)

11. Again, we state what we want her to accomplish.

    2.1 Sally needs to learn 14 beginning consonant sounds and 21 ending ones.

12. Next, we ask ourselves:

    2.2 What kind of information do I need to program for Sally?

    a. What kind of questions do I have?
    1) Do I have questions about her.

______background (family, previous educational experiences)
______intellectual information (at what level is the child functioning?)
______behavioral information (what can and can't the child do?)
______other information (health, sensory, etc.)

2) Let's say I would like more behavioral information about Sally. Would any of you want other types of information also?

(RECORD RESPONSES ON THE TRANSPARENCY)

b. Which of these questions are answered by the information you already have?
Do you have any

______background information
______intellectual information
______behavioral information
______other information

1) With this example, you only have a little behavioral information:

She knows 7 beginning consonant sounds and no ending consonant sounds.

2) In other cases, the referring teacher may have given you information that would answer your questions in certain areas and/or you may have read her cumulative folder, etc.

(PUT TRANSPARENCY OF WORKSHEET 3 ON THE OVERHEAD)

c. What questions still need to be answered? What kind of information do you need to answer them?

______background information
______intellectual information
______behavioral information
______other information

1) I still have questions in the behavioral area. For example, I might want to know what language concepts Sally does and doesn't have.

2) What about the other areas that some of you had questions in? Can you elaborate on the type of information you would like?

(RECORD RESPONSES ON THE TRANSPARENCY)

13. By listing what types of information we still need, we have an indication of where to begin gathering diagnostic data.

14. The next question we ask is:

2.3 Does this information we have gathered indicate a need to modify the problem statement and goals we established for Sally?

a. This question can't be answered until you have gathered all the diagnostic information on the child so let's wait and answer it after we've gathered some on her.

(HAND OUT ACTIVITY SHEET 1a: DEFINING THE PROBLEM AND IDENTIFYING WHAT WILL MEET THE STUDENT'S NEED)

Activity Sheet 1a

1. Think of a child you worked with last year.
2. Based on that child's problem, complete worksheets 1, 2 & 3 for defining a problem and identifying what will meet the student's need.
3. As you finish each page, discuss it with a facilitator.
4. Rejoin the large group for discussion.

(DISCUSS WITH THE GROUP THE PROS AND CONS OF USING SUCH A PROCESS WHEN WORKING WITH HANDICAPPED CHILDREN)

15. Is this the type of process you use to define a problem and identify what will meet the student's need? Are these the types of questions you ask yourself?

16. Do you have any suggestions about questions to add or delete?

17. On pages 2 and 3, we looked at the many types of information you could gather. We're going to concentrate on gathering information that is behavioral-observable, measurable data.

    a. We're not going to make assumptions about what is going on inside a child's head.

    b. We'll concentrate on what we observe him doing.

18. One way to gather informal, diagnostic data is through task analysis.

Defining the Problem and
Identifying What Will Meet the Student's Need

Activity Sheet 1a

1. Think of a child you worked with last year.
2. Based on that child's problem, complete worksheets 1,2, & 3, Defining a Problem and Identifying What Will Meet the Student's Need.
3. As you finish each page, discuss it with a facilitator.
4. Rejoin the large group for discussion.

Worksheet 1
(Use in Activity 1a)

Defining the Problem and Identifying What Will Meet the Student's Need

1.0 Defining the problem.

1.1 Who is affected?

1.2 What is the apparent skill deficit?

1.3 What kind of skill deficit is it?

a. What did we want the student to accomplish?

b. What has been done? (What/How much did the student achieve?)

1.4 What remains to be done?

1.5 Write a problem statement in paragraph form including the information in 1.1, 1.2, 1.3, and 1.4.

1.6 Are there ways to meet this problem?

Probably yes_____ Probably no_____

Worksheet 2
(Use in Activity 1a)

2.0 Identifying what will meet the student's need.

2.1 What is it that the student is to accomplish? (What are the appropriate goals for the student?)

2.2 What kinds of information are needed for you to program for this child?

a. What questions need to be answered before you can program for the child? Do you have questions in the areas of:

____ background information (family, previous educational experiences, etc.)

____ intellectual information (at what level is the child functioning?)

____ behavioral information (what can the child do? What can't he do?)

____ other information (health, sensory, etc.)

b. Which of these questions are answered by the information you already have?

____ background information

____ intellectual information

____ behavioral information

____ other information

Worksheet 3
(Use in Activity 1a)

c. What questions still need to be answered? What kind of information do you need to answer them?

Kinds of Information	Elaborate
____ background information	
____ intellectual information	
____ behavioral information	
____ other information	

2.3 Does this information you have gathered indicate a need to modify 1.5 or 2.1?

Yes____ No____

Facilitator Notes for Task Analysis

The task analysis module is one of the most important in the series of packets. Without an understanding of task analysis, participants will have difficulty meeting the objectives of the Systematic Inquiry, Learning Methods and Task Analysis of Materials modules.

The facilitator must select five worksheets and five subtests for the group to task analyze. Descriptions of previous worksheets and subtests used are included in the module. The worksheets should be selected from texts used in the participants' school districts.

The worksheets should be placed in order of difficulty. The first one the participants do should be the easiest and "cleanest" to task analyze. In previous workshops, Worksheet 7, the fourth one in the series, was considered the most difficult to task analyze. It described a social situation. The fifth worksheet, number 8, was easier to do than 7. It was thought that by ending the activity by task analyzing Worksheet 8, the participants would have a more positive feeling about their ability to task analyze than if they stopped after Worksheet 7. The only reason 7 appears to be so difficult to task analyze is that it requires a different type of skill analysis than the academic worksheets.

The two subtests selected for Activity 2d should be fairly easy to task analyze. These do not necessarily have to be from tests used in the school district. However, if some are available that are fairly "clean," it is advisable to use them.

In activity 2e, the subtests do not have to be as easy to task analyze but should be those commonly used in the school district. Three recording sheets are provided for this activity. If more subtests are to be task analyzed, more recording sheets will need to be prepared and provided. An activity often included as part of this one is to have each dyad task analyze different subtests. Then, all subtests of the test are task analyzed. These can be collected, duplicated and distributed to the participants who will then have a copy of a task analysis for each part of the test.

The tests used in activities 2d and 2e should not be ability tests such as those for memory, perception and so forth. These are very difficult to task analyze in terms that are observable.

The facilitator will need to prepare task analyses that previous participants have completed for every worksheet and subtest presented. If you are using a worksheet or subtest for the first time, and do not have task analyses previous participants have written, you will need to do them. You might consider putting "Task Analysis by Previous Participants" in the upper right corner, however. Recording this seems to put participants more at ease for they don't feel these are checksheets with the "right" answers. They become simply another participant's idea of how to do task analysis.

Stress to the participants that these task analyses are not necessarily correct, but they are to be used by the participants to determine if they left out any steps or misinterpreted something. The discussion that often results when participants compare their responses to what someone else did usually provides many learning experiences.

Experience has also indicated that by stressing that the answers are not necessarily correct, many disagreements among participants and facilitators about whose response is correct are eliminated.

If you do prepare the "Task Analyses by Previous Participants" yourself, try not to become defensive if participants, when comparing yours with theirs, disagree with them. Facilitating can put you in many exciting learning situations also!

Often, participants will ask, "Am I breaking this objective into small enough tasks?" Encourage them to try to break objectives into very small steps when they are first practicing task analyses. If they can do this, they will also be able to task analyze on a more general level.

For example, when task analyzing a reading page, some participants want to write "reading" as a task. They do not want to break it into "isolates sounds," "sequences sounds" and "blends sounds." When asked why they haven't done this, they will probably tell you that they know the children they work with can read so they didn't break reading down into the three steps. Explain to them that when they are task analyzing for themselves for children they know, it is all right to do a general task analysis in areas where they are certain the child has the skills. However, for practice, and in case they ever work with a child with fewer skills than those they usually work with have, they should try to break the objective into as many subtasks as possible.

Some participants will wonder why they need to always include the tasks of "attending to the task/teacher" and "demonstrates an understanding of the language of directions." These have been included because they are two skills often assumed that the student has which he often doesn't. By having the participants always include these, it is hoped they will become more aware of these areas and check to be sure children can do them.

There are three problems that facilitators often encounter when training people to do task analysis. The first is that participants often record abilities, such as "visual discrimination of b and d" or "remembers sounds" as tasks. Stress to them that these are abilities and cannot be in a task analysis unless they can be stated in observable terms. Then assist them in writing these in observable terms.

Another problem concerns recording actual tasks but using words such as "understands" to describe them. Help the participants select action verbs. Often, the word "demonstrates" is placed in front of every task. "Demonstrates" should probably only be used in one case, "demonstrates an understanding of the language of directions." In most other cases, a more observable term can be found.

The third problem revolves around the amount of papers that must be distributed for this module. The facilitators must be very organized and know when to distribute what papers to whom.

You will have some participants who will finish Activity 2c before others will. Allow them to start Activities 2d and 2e without waiting for the others. However, this will complicate the distribution of papers, so be prepared for mass confusion unless you're organized!

Encourage the participants to change partners after Activities 2c, 2d and 2e. Everyone takes a slightly different approach to task analysis and it is beneficial to expose people to as many of these approaches as possible for more learning is then likely to occur.

Objectives of the Module

1. Participants will isolate, describe and sequence the subtasks of a non-academic task.
2. Given a pack of cards with the sub-tasks of a non-academic task in random order, participants will sequence the subtasks in correct order with 85% accuracy.
3. The participants will read Chapter 3 of the Essentials of Teaching.
4. The participants will define task analysis and tell 4 uses of task analysis with 100% accuracy.
5. The participants will break five academic worksheets into their component subtasks and record their task analyses on the Recording Sheets with 95% accuracy.
6. The participants will break specified subtests of diagnostic tests into their component subtasks and record their task analyses on the Recording Sheets with 90% accuracy.
7. The participants will break specified subtests of diagnostic tests into their component subtasks and record their task analyses on Recording Sheets with 95% accuracy.

Materials Needed for the Module

Facilitator Materials

Activity Notes

Blank transparencies

Approximately ten 3x5 cards per participant

Task Analyses by Previous Participants for Worksheets 4,5,6,7 and 8, Subtests 9 and 10 and three other subtests.

1 transparency of

Reasons for	Reasons Against	Ways to Solve

overhead

marking pens

Participant Materials

1 Activity Sheet 2a per participant

1 Activity Sheet 2b per participant

1 copy of Essentials of Teaching per participant

1 Activity Sheet 2c per participant

1 copy of Worksheets 4,5,6, 7 and 8 and Recording Sheets 4a, 5a, 6a, 7a and 8a per participant

1 copy of Activity Sheet 2d per participant

Participant Materials - CONT.

1 copy of Subtests 9 and 10 and Recording Sheets 9a and 10 per participant

1 copy of Activity Sheet 2e per participant

1 copy of three different subtests and Recording Sheets 11a, 12a and 13a per participa

1 copy of Activity Sheet 2e per participant

Time Needed to Complete the Module

Approximately three to three and one half hours is needed to complete the module. It is best to teach the module in one session. However, if this is not possible, Activities 2a and 2b can be facilitated in one session and Activities 2c, 2d and 2e in the second one. Both sessions would then be about one and one-half hours long.

Activity 2b can be assigned as a "homework" assignment which would also shorten the time the module takes to complete.

Activity Notes for Task Analysis

1. In our last activity, we practiced identifying and defining the problem. From this, we decided to teach Sally beginning and ending consonant sounds. Before we begin, we need to gather some diagnostic information that will help us decide how to teach her. One kind of informal diagnostic technique that could help us gather the information we need is task analysis.

2. One of the basic principles of teaching children with learning problems is that the learning tasks we present them should be broken down into small, sequential steps. Breaking tasks or objectives into small, sequential steps is task analysis.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE FOLLOWING.)

3. Barbara Bateman, in Essentials of Teaching, describes task analysis "as the process of
   a. isolating
   b. describing
   c. sequencing
   all necessary subtasks which, when the child has mastered them, will enable him to perform the objective." (Bateman, 1971, p. 33)

4. Teachers, consultants and so forth use task analysis as both a diagnostic and remedial tool. In this module, we'll explore its use as a diagnostic technique.

5. To use task analysis diagnostically, you

   a. Specify an instructional objective the child is having difficulty meeting

   b. Break it into subtasks

   c. Construct a checklist with a test item for each subtask

   d. Administer the checklist

   e. Teach the child the subtasks he doesn't know

      1. When he is able to do all the subtasks that are part of the objective, he should be able to complete the objective.

      2. When you're teaching the subtasks to the child that he didn't know, remember to check for generalization. Sometimes, when you're teaching a child one subtask, he may learn another one automatically. So, after teaching the first subtask, administer the test item from the checklist for the next subtask you're going to teach him before starting to teach it to him. It won't take long and it may prevent you from teaching the child something he already knows.

6. There are two things to remember when you're doing task analysis. First, pretend you are a strict behaviorist. You are interested only in behaviors you can observe -- those that can be

   a. seen

   b. heard

   c. measured or

   d. counted

7. Don't attempt to make any inferences about what goes on "inside" the child.

   a. For example, let's not use a term like "visual discrimination." A term like that doesn't tell us much. There are many definitions of it. Also it is hard to measure if the child has problems in this area or not when it is just stated as "visual discrimination."

   b. However, if we state the term in more observable language such as "can match lower case 'b' with another lower case 'b' when lower case 'd's' are also present," then we can see the child perform that task.

   c. We've changed a statement of a task from something we were guessing went on 'inside' the child's brain to a task that is observable.

8. So, concentrate only on the observable subtasks the child needs to do in order to complete the objective.

   a. Ask yourself, "Does the child need to do this subtask to meet the objective?" and

   b. "Is it something I can see, hear, count or measure?"

9. The second point to remember when using task analysis is to concentrate on the objective you're trying to teach the child. At this time, we don't need to concentrate on the child herself.

10. When we're trying to do a task analysis using observable behaviors we use this formula:

    Action verb plus object.

    For example, an action verb is "pick up" and an object is "Kleenex." or "matches" "pictures" is another example.

(HAND OUT ACTIVITY SHEET 2a & 3 x 5 CARDS)

Activity Sheet 2a

1. In small groups, choose a non-academic task and isolate, describe, and sequence the subtasks which, when mastered, will enable an individual to perform the task.

2. List each subtask on a separate card.

3. Number each card on the back, indicating the correct sequence your group has determined.

4. Provide a title card. Underline the title.

5. Shuffle your task cards out of sequence and place the title card on top.

6. Give your task cards to the facilitator for exchange with another group.

7. When you receive another group's set of task cards, sequence the given tasks as a group. Then compare your group's sequence to the original group's sequencing by checking the number on back of each card. Discuss any discrepancies.

(AFTER THE PARTICIPANTS HAVE COMPLETED ACTIVITY 2a, ASK THEM TO FORM A LARGE GROUP.)

11. Now we're going to start applying task analysis to academic objectives.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE FOLLOWING:)

Let's keep in mind that:

a. Task analysis involves isolating, describing and sequencing subtasks

b. Task analysis is action verb plus object.

c. Task analysis involves only observable behavior

12. Let's say we wanted the child to read the word mat. Our objective was that he would say the word outloud within seconds of seeing it with 100% accuracy. He couldn't do it so we decided to gather some informal diagnostic information about why he couldn't by applying the task analysis process.

(RECORD THE FOLLOWING ON THE TRANSPARENCY:)

13. The task analysis of mat is:

a. Attends to teacher and task

b. Demonstrates an understanding of the key words in the directions (These are the directions the teacher gives the child. For example, "Read this word." The child would have to demonstrate an understanding of the words "read," "this" and "word.")

   c. Demonstrates left-to-right sequencing (He knows he reads a word by moving his eyes from left to right.)

   d. Matches a letter sound to the correct letter symbol (This subtask is a way of stating "sound-symbol correspondence" in more observable terms.)

   e. Says the short "a" sound when he sees the letter "a" between two consonants in a three letter word.

   f. Blends the individual sounds into the word.

   g. Says the whole word.

14. This completes the first and second steps of task analysis. We have listed a specific objective we want the child to achieve and broken it into small subtasks. The third step is to construct a checklist with a test item for each subtask.

15. If I wanted to check to see if the child were attending to the teacher and task, I would first define what attending was in observable terms. Let's say it means looking at the word card for thirty seconds without looking up. Then we could observe the child to see if he did that. If he didn't we could teach him to because he would need to do this subtask in order to complete our objective.

16. A way to check to see if he understands the key words in the directions is to ask him what "read" means or to point to a "word".

17. To check out if he could sequence his reading from left to right, you might ask him to point to where he would start reading the word.

18. To see if he can match the correct sound to the correct symbol, ask him to tell you the sound of each letter.

19. To see if he can apply the consonant-vowel-consonant rule, present three letter nonsense words with the letter "a" in the middle. Ask him to read them and see if he says the short "a" sound.

20. Blends sounds into words is the sixth task. We could ask the child to say all the sounds of the individual letters together. We could then try to get him to say the sounds together faster and faster.

21. The last subtask is "says the word". A way to test that is to ask the child to repeat the word after you have said it.

22. Let's take some time to read about Barbara Bateman's method of task analysis and then we'll practice task analyzing some Worksheets.

(HAND OUT ACTIVITY SHEET 2b)

Activity Sheet 2b

1. Read Chapter 3 in the Essentials of Teaching.

2. Return to the large group for discussion.

23. What did you think were the important points in this chapter?

(IF THE FOLLOWING POINTS ARE NOT MENTIONED BY THE PARTICIPANTS, THE FACILITATOR SHOULD PRESENT THEM.)

a. A thorough task analysis enables the teacher to determine quite precisely where to begin instruction. In all teaching, but especially so in remedial work, it is important to begin instruction on the appropriate level of task difficulty.

b. Task analysis provides an efficient means for assessing what skills the child needs to learn to complete the objective.

c. The uses of task analysis include

   1) assessing entering behavior

   2) grouping for instruction

   3) readiness

   4) motivation.

24. Bateman presents a task ladder model. The bottom rung of the ladder is for entering behavior prerequisites. The second rung lists the subtasks and the top rung is the instructional objective. During the next activity, you will be looking at task analyses the previous participants did. You will see that they started listing the behavior prerequisites as numbers one, two, etc. The last task listed is the one that meets the objective. This is a reverse of Bateman's ladder.

Entry behaviors such as "attending" and "demonstrates an understanding of the key words in the directions" are always included. It is a good idea to always list these because they are so important for the completion of every objective and unless we list them we often forget to check them out and teach them if necessary.

25. In our next activity, we are going to task analyze workbook pages. We will ask you to compare your task analysis to those that previous participants did. These are not necessarily the correct answers. We ask you to compare yours with theirs in case you have left out something that they may have included. Or, if you aren't sure of the correct sequence, looking at how someone else did it may help you.

26. When you look at these other task analyses, you will find some common terms.

a. Attends: Refers to the child's skill at paying attention to the teacher and/or the task.

b. Language of directions or key words in the directions: The vocabulary, or key words, used in the oral or written directions the teacher gives.

c. Sequences sounds: The child must put letter sounds in their correct order to form the correct word. For example, if the child were sequencing the sounds correctly when he read the word cat, he would say "c - a - t" not "a - t - c."

d. Blending: The child can blend the individual sounds together to form a word.

e. Left-to-right sequencing: The child moves his eyes from left-to-right when reading.

f. Quantity-symbol match: The child demonstrates this by matching a number symbol with the quantity of objects that number stands for. For example, when shown the number four, the child makes four lines on his paper.

g. Partial-counting: The child can start counting at a number other than one and stop counting at the number you tell him to. He doesn't always have to start and stop counting at a certain number.

27. Please try to use similar words when you task analyze the worksheets. By using common terms, we can more easily understand what everyone means.

28. Be sure to compare your task analysis of the worksheet with that done by other participants after each worksheet.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE FOLLOWING:)

29. Remember the rules of task analysis:

a. It is isolating, describing and sequencing subtasks .

b. It is action verb plus object.

c. It involves only observable behavior .

(HAND OUT ACTIVITY SHEET 2c, WORKSHEETS 4, 5, 6, 7, & 8 AND RECORDING SHEETS 4a, 5a, 6a, 7a, & 8a.

Activity Sheet 2c

1. In dyads, isolate, describe and sequence the subtasks on each of the academic worksheets with which you have been provided.
2. Compare your answers with examples that previous participants did.
3. Discuss any differences between your task analysis and that of previous participants.
4. Select your task analysis, or the one by previous participants, or a composite of both, as your final task analysis of the worksheet.
5. Write your final analysis on the recording sheet.
6. At this time, ignore the "Check" and "Systematic Inquiries" columns.

(AFTER THE GROUP HAS FINISHED TASK ANALYZING THE WORKBOOK PAGES, HAND OUT ACTIVITY SHEET 2d, RECORDING SHEETS 9a & 10a & TWO SUBTESTS TO EACH DYAD. THE SUBTESTS SHOULD BE FROM A TEST(S) THAT IS FAIRLY "CLEAN" AND EASY TO TASK ANALYZE.

THESE SUBTESTS DO NOT NECESSARILY HAVE TO BE ONES THE PARTICIPANTS ARE FAMILIAR WITH. THEY SHOULD BE ONES THAT ARE APPROPRIATE FOR YOUR "EXAMPLE CHILD" TO HAVE COMPLETED. SUBTESTS PREVIOUSLY USED HAVE INCLUDED THOSE FROM LEVELS A & B OF THE WISCONSIN TESTS OF READING SKILL DEVELOPMENT, THE BOEHM TEST OF BASIC CONCEPTS AND KEY MATH. EXAMPLES OF TASK ANALYSES OF SOME OF THESE ARE INCLUDED IN THIS PACKET. IT IS RECOMMENDED THAT THE SUBTESTS USED BE ONES THAT ASSESS SKILL AREAS AND NOT ABILITY AREAS SUCH AS AUDITORY DISCRIMINATION, GENERAL INTELLIGENCE, ETC. THESE KINDS OF TESTS ARE MUCH MORE DIFFICULT TO TASK ANALYZE IN OBSERVABLE TERMS.)

Activity Sheet 2d

1. In dyads, isolate, describe, and sequence the subtasks of two subtests.
2. Compare your answers with examples that previous participants did.
3. Discuss any differences between your task analysis and that of previous participants.
4. Select your task analysis, or the one by previous participants or a composite of both, as your final task analysis of the subtest.
5. Write your final analysis on the recording sheet.
6. At this time, ignore the "Check" & "Systematic Inquiries" columns.

30. Remember to compare the task analysis of each subtest with those that previous participants did after you finish each one.

(AFTER THE GROUP HAS FINISHED ACTIVITY 2d, HAND OUT ACTIVITY SHEET 2e, RECORDING SHEETS 11a, 12a & 13a, AND THREE SUBTESTS TO EACH DYAD. THE SUBTESTS SELECTED FOR THIS ACTIVITY DO NOT NEED TO BE AS "CLEAN" OR AS EASY TO TASK ANALYZE AS THOSE IN ACTIVITY 2d. IF POSSIBLE, THEY SHOULD BE TESTS THE PARTICIPANTS USE IN THEIR WORK. A VARIETY OF TESTS THAT ASSESS DIFFERENT CONTENT AREAS SHOULD BE PROVIDED. RATHER THAN GIVE PARTICIPANTS THREE SUBTESTS FROM THE SAME TEST, OR CONTENT AREA, IT PROVIDES MORE PRACTICE TO GIVE THEM SUBTESTS FROM DIFFERENT TESTS ASSESSING DIFFERENT AREAS. SUBTESTS PREVIOUSLY USED IN THIS ACTIVITY INCLUDE PEABODY INDIVIDUAL ACHIEVEMENT TEST; STANFORD DIAGNOSTIC READING TEST, LEVEL 1; STANFORD DIAGNOSTIC MATHEMATICS TEST, LEVEL 1; WISCONSIN TESTS OF READING SKILL DEVELOPMENT, LEVELS A-D AND THE BASIC CONCEPT INVENTORY. EXAMPLES OF TASK ANALYSES OF SOME OF THESE ARE INCLUDED IN THIS PACKET.)

Activity Sheet 2e

1. In dyads, isolate, describe and sequence subtests given to you by the facilitator.

2. Compare your answers with examples that previous participants did.

3. Discuss any differences between your task analysis and that of previous participants.

4. Select your task analysis, or the one by previous participants, or a composite of both, as your final task analysis of the worksheet.

5. Write the task analysis on the recording sheet. Please print legibly as these will be duplicated and distributed to the whole group.

6. At this time, ignore the "Check" and "Systematic Inquiries" columns.

7. Return to the large group for discussion.

(WHEN THE PARTICIPANTS HAVE COMPLETED THE ACTIVITY, ASK THEM TO FORM A LARGE GROUP.)

31. Let's brainstorm some reasons for using task analysis as a diagnostic technique, some problems that may be involved in using it and ways to solve some of these problems.

(PUT A TRANSPARENCY ON THE OVERHEAD THAT LOOKS LIKE THIS:

REASONS FOR	PROBLEMS	WAYS TO SOLVE

RECORD THE GROUPS' RESPONSES IN THE APPROPRIATE COLUMN.

One of the most often mentioned reasons for not using task analysis is the amount of time it takes. If the following points are not mentioned by the participants, the facilitator should make them:

a. Task analysis becomes easier and quicker to do the more you do it. Did any of you notice this as you practiced?

b. You would never task analyze every worksheet or test that you gave a child. You would do only those he had problems with.

c. Save every task analysis you do. Another child may have problems with that workbook page or test, or one similar to it.

d. Teachers in a building could make a file of all the task analyses they have done. Then, before doing one, you could check the file to see if that worksheet or test had already been task analyzed. If you did put all task analyses in a file, it would be important to agree on a common set of terms first.)

Introduction to Task Analysis

Activity Sheet 2a

1. In small groups, choose a non-academic task and isolate, describe, and sequence the subtasks which, when mastered, will enable an individual to perform the task.
2. List each subtask on a separate card.
3. Number each card on the back, indicating the correct sequence your group has determined.
4. Provide a title card. Underline the title.
5. Shuffle your task cards out of sequence and place the title card on top.
6. Give your task cards to the facilitator for exchange with another group.
7. When you receive another group's set of task cards, sequence the given tasks as a group. Then compare your group's sequence to the original group's sequencing by checking the number on back of each card. Discuss any discrepancies.

Introduction to Task Analysis

Activity Sheet 2b

1. Read Chapter 3 in The Essentials of Teaching.
2. Return to the large group for discussion.

Introduction to Task Analysis

Activity Sheet 2c

1. In dyads, isolate, describe and sequence the subtasks on each of the academic worksheets with which you have been provided.
2. Compare your answers with examples that previous participants did.
3. Discuss any differences between your task analysis and that of previous participants.
4. Select your task analysis, or the one by previous participants, or a composite of both, as your final task analysis of the worksheet.
5. Write your final analysis on the recording sheet.
6. At this time, ignore the "Check" and "Systematic Inquiries" column.

Introduction to Task Analysis

Activity Sheet 2d

1. In dyads, isolate, describe, and sequence the subtasks of two subtests.
2. Compare your answers with examples that previous participants did.
3. Discuss any differences between your task analysis and that of previous participants.
4. Select your task analysis, or the one by previous participants, or a composite of both, as your final task analysis of the subtest.
5. Write your final analysis on the recording sheet.
6. At this time, ignore the "Check" and "Systematic Inquiries" column.

Introduction to Task Analysis

Activity Sheet 2e

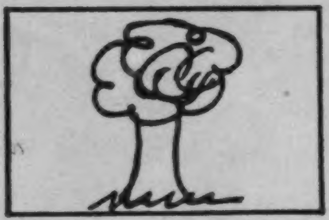
1. In dyads, isolate, describe and sequence subtests given to you by the facilitator.
2. Compare your answers with examples that previous participants did.
3. Discuss any differences between your task analysis and that of previous participants.
4. Select your task analysis, or the one by previous participants, or a composite of both, as your final task analysis of the worksheet.
5. Write the task analysis on the recording sheet. Please print legibly as these will be duplicated and distributed to the whole group.
6. At this time, ignore the "Check" and "Systematic Inquiries" column.
7. Return to the large group for discussion.

Introduction to Task Analysis

Worksheet 4
(Use in Activity 2c)

The workbook page selected for this worksheet should be simple and fairly easy to task analyze. One from a first grade reading workbook is suggested. An example might be a worksheet with the objective of reinforcing the child's appropriate use of "can" and "can't." It might have a series on pictures on the left hand side of the page and sentences on the right. The children are told to read the sentences, match them to the appropriate picture and decide if "can" or "can't" best fits in the sentence.

An example of an item on this kind of worksheet might look like this:



can
Boys eat this.
can't

A task analysis of this type of worksheet is included in the packet titled "Task Analysis of Worksheet 4 by Previous Participants."

Introduction to Task Analysis

Worksheet 5
(Use in Activity 2c)

The workbook exercise selected for Worksheet 5 should be one that is a little more difficult than the first to task analyze. A page from a third or fourth grade reading workbook is suggested.

A previously used example consisted of two parts. The first part contained a list of three questions and three responses. The child read the question and chose one of the responses to answer it. His selection was based on information from a story he had previously read.

The second part of the worksheet contained three questions that were to be answered by a "yes" or "no" response. These were also based on the previously read story.

An example of an item on this kind of worksheet might be the following:

a. He went home. b. He ate an apple. c. He called to his sister.

1. Where did David go? ____________________
2. What did he do first when he got there? ____________________
3. What did he eat? ____________________

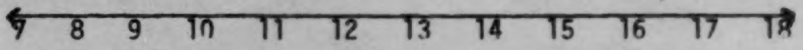
A task analysis of this type of worksheet is included in the packet titled "Task Analysis of Worksheet 5 by Previous Participants."

Worksheet 6
(Use in Activity 2c)

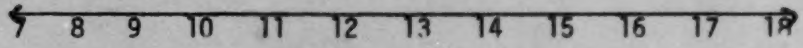
The third worksheet the participants task analyze should be from a first or second grade mathematics workbook.

One used previously asked the child to name a sum or missing addend using a number line. The child was given the following format and asked to solve the problem:

a. 8 + ___ = 17



b. 18 - ___ = 9



The second part of the worksheet asked the child to circle sets of two and then answer the question "How many sets of two make 16?"

A task analysis of this type of worksheet is included in the packet titled "Task Analysis of Worksheet 6 by Previous Participants."

Worksheet 7
(Use in Activity 2c)

This worksheet should describe a social situation. The following is an example of one used previously.

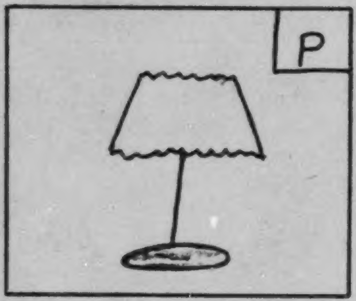
"The teacher gave directions to total class before she handed out the worksheet. David is given a reading worksheet to be completed independently while the teacher is working with reading groups. David filled in the worksheet completely inaccurately, took out his zoom boom and proceeded to irritate several children seated around him."

A task analysis of this worksheet is included in the packet titled "Task Analysis of Worksheet 7 by Previous Participants."

Worksheet 8
(Use in Activity 2c)

The last worksheet the participants task analyze should be fairly simple so they end this activity on a positive note. Often, a phonics workbook page at the first or second grade level is used.

A previously used worksheet required a child to look at a picture and identify it. A letter was printed with the picture. The child had to decide if that letter sound came at the first or last of the picture name. He then was to circle first if it came first in the word, or last, if it came at the end of the word. The following is an example of this kind of exercise:

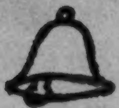


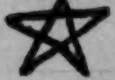
first

last

A task analysis of this kind of worksheet is included in the packet titled "Task Analysis of Worksheet 8 by Previous Participants."

Introduction to Task Analysis
Letter Names Subtest
Worksheet 9
(Use in Activity 2d)





t	a t p c
f	f r c m
b	f h l b
o	c a e o
W	L W I T
s	s z e c
E	L H E T
u	n r m u
Y	I T L Y
d	b p d g

Teacher Directions:

Task A: "What is this?" (Point to the "t" in the bell column.)

Task B: "Point to the t". (Indicate the row the child may find the letter in in the start column.)

Examples of Items That Could
Be Used As Subtest 10 In
Activity 2d.

Letter Sounds Subtest

Teacher Directions, Part A:

"I am going to read a made-up word to you. Listen and decide which letter makes the beginning sound. Fill in the circle in front of it. Ready? Mar. Mar."

○ d
○ p
○ m
○ t

Teacher Directions, Part B:

"I am going to read two words to you. If they start with the same sound, fill in the circle beside yes. If they don't start with the same sound, fill in the circle beside no.

Fis - Lim Fiz - Lim."

○ yes
○ no

Recording Sheet 4a
(Use in Activity 2c)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: ______________________________

Introduction to Task Analysis

Recording Sheet 5a
(Use in Activity 2c)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: ______________________________

Introduction to Task Analysis

Recording Sheet 6a
(Use in Activity 2c)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: ____________________

Introduction to Task Analysis

Recording Sheet 7a
(Use Activity 2c)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: ______________________

Introduction to Task Analysis

Recording Sheet 8a
(Use in Activity 2c)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: ______________________________

Introduction to Task Analysis

Recording Sheet 9a
(Use in Activity 2d)

Task Analysis	Check	Systematic Inquiries

Name of Subtest: ______________________

Introduction to Task Analysis

Recording Sheet 10a
(Use in Activity 2d)

Task Analysis	Check	Systematic Inquiries

Name of Subtest: ____________________

Introduction to Task Analysis

Recording Sheet 11a
(Use in Activity 2e)

Task Analysis	Check	Systematic Inquiries

Name of Subtest: ______________________

Introduction to Task Analysis

Recording Sheet 12a
(Use in Activity 2e)

Task Analysis	Check	Systematic Inquiries

Name of Subtest: ______________________

Introduction to Task Analysis

Recording Sheet 13a
(Use in Activity 2e)

Task Analysis	Check	Systematic Inquiries

Name of Subtest: ____________________

Task Analysis of Worksheet 4 by Previous Participants
(Use in Activity 2c)

1. Attends to teacher/task.
2. Demonstrates an understanding of the key words in the directions (i.e. can demonstrate what "choose" means).
3. Demonstrates an understanding of left-to-right sequencing.
4. Demonstrates an understanding of the concept of a sentence.
5. Reads (a. matches the correct letter sound with the correct letter symbol, b. sequences sounds, c. blends sounds).
6. Identifies pictures.
7. Matches the sentence to the picture.
8. Selects a word by drawing a circle around it.

Task Analysis of Worksheet 5 by Previous Participants
(Use in Activity 2c)

1. Attends to teacher/task.
2. Demonstrates an understanding of the key words in the directions.
3. Demonstrates an understanding of left-to-right sequencing.
4. Demonstrates an understanding of the concept of a sentence.
5. Reads (a. matches the correct letter sound with the correct letter symbol, b. sequences sounds, c. blends sounds).
6. Matches the sentence to possible responses.
7. Has enough background information to answer questions correctly.
8. Selects correct response by finding the letter that indicates how the correct response is identified.
9. Finds the correct line on which to put the letter.
10. Writes that letter.
11. Writes "yes" or "no."

Introduction to Task Analysis

Task Analysis of Worksheet 6
by Previous Participants.
(Use in Activity 2c)

1. Attends to worksheet.
2. Reads directions.
3. Demonstrates an understanding of the left-right sequence of the number line.
4. Matches the correct number symbol to the correct quantity for the numbers used.
5. Demonstrates an understanding of the meaning of +, - and =.
6. Completes the processes of finding the sum and the missing addend.
7. Partial counts.
8. Draws a line to show counting.
9. Writes numbers in a box.
10. Counts to 18 by ones.
11. Matches numbers in the problem with numbers on the line.
12. Counts by twos.
13. Makes circles around sets of two.

Introduction to Task Analysis

Task Analysis of Worksheet 7
by Previous Participants.
(Use in Activity 2c)

1. Has necessary skills to complete worksheet.
2. Attends to teacher/task.
3. Follows oral directions.
4. Begins independent activity.
5. Attends to task until completion.
6. Demonstrates behavior after completion of task.

Introduction to Task Analysis

Task Analysis of Worksheet 8
by Previous Participants.
(Use in Activity 2c)

1. Reads directions.
2. Follows directions.
3. Demonstrates an understanding of the concepts of "first," "last."
4. Identifies the pictures of "cow, cook, kite, hat."
5. Matches appropriate sound to the symbol of the letters "c, k, h."
6. Isolates initial and final sounds.
7. Can spell "cook."
8. Draws a circle around the correct word.

Introduction to Task Analysis

Task Analyses of Subtests
by Previous Participants.
(Use in Activity 2d)

Letter Names Subtest, Worksheet 9

Part A:

1. Attends to teacher/task.
2. Demonstrates an understanding of the key words in the directions.
3. Matches visual symbol of letter with previously learned letter name and says correct name.

Part B:

1. Attends to teacher/task.
2. Demonstrates an understanding of the key words in the directions.
3. Locates row.
4. Matches letter name with previously learned letter symbol by pointing to the correct letter.

Letter Sounds Subtest, Worksheet 10

Part A:

1. Attends to teacher/task.
2. Demonstrates an understanding of the key words in the directions.
3. Locates item.
4. Repeats word.
5. Isolates beginning sound.
6. Matches initial sound of stimulus word to sounds of other letters.
7. Selects correct answer by filling in the circle.

Part B:

1. Attends to teacher/task.
2. Demonstrates an understanding of the key words in the directions.
3. Locates item.

4. Repeats words.
5. Isolates initial sounds of both words.
6. Matches initial sounds of both words.
7. Reads "yes" and "no".
8. Selects correct response by filling in the circle.

Introduction to Task Analysis

Task Analyses of the Peabody Individual Achievement Test by Previous Participants.
(Use in Activity 2e)

Mathematics

Plate 8:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of the oral directions by following them correctly.
4. Demonstrates an understanding of the concepts "gave away," "left," "point," etc.
5. Matches the number word to the pictured quantity for numbers 1 through 6.
6. Matches the oral directions and the possible responses.
7. Matches the quantity with the symbol for numbers 1 through 6.
8. Locates the box.
9. Selects the correct responses by pointing to them.

Plate 23:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of the oral directions by following them correctly.
4. Demonstrates an understanding of the concept "pair".
5. Matches the oral directions and the possible responses.
6. Counts by 2's.
7. Matches quantities and symbols for numbers 9, 6, 15, and 5.
8. Locates the box.
9. Selects the correct responses by pointing to them.

Plate 51:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of oral directions by following them correctly.
4. Demonstrates an understanding of the concept of "equals" and what the comma represents.
5. Demonstrates an understanding of the place value of ten thousand, thousand, hundred, ten, and ones.
6. Matches oral directions with possible responses.
7. Matches quantities and symbols.
8. Locates box.
9. Selects correct responses by pointing to them.

Plate 60:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of oral directions by following them correctly.
4. Demonstrates an understanding of the place value of hundreths, tenths, and ones.
5. Demonstrates an understanding of what the decimal point is.
6. Demonstrates how to interpret a decimal point.
7. Matches oral directions with possible responses.
8. Matches quantities and symbols.
9. Locates box.
10. Selects correct responses by pointing to them.

Reading Recognition

Plate 3:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of oral directions by following them correctly.
4. Demonstrates an understanding of the concept of "find" and "point".
5. Can match like symbols.
6. Can differentiate between like and unlike symbols.
7. Locates box.
8. Selects correct response by correctly pointing to it.

Plate 14:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of oral directions by following them correctly.
4. Sees letter.
5. Says letter name.

Plate 17:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of oral directions by following them correctly.
4. Locates row.
5. Sees words.
6. Demonstrates an understanding of left-to-right sequence.
7. Reads words (a. matches the correct letter sound with the correct symbol, b. sequences sounds, c. blends sounds).
8. Says words out loud.

Reading

Plate 39:

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of oral directions by following them correctly.
4. Demonstrates an understanding of the concept of a sentence.
5. Locates sentence.
6. Demonstrates an understanding of left-to-right sequencing.
7. Reads the sentence (a. matches the correct sound with the correct symbol, b. sequences sounds, c. blends sounds).
8. Has the necessary background information to identify the picture.
9. Matches the sentence to each picture.
10. Locates box.
11. Selects correct responses by pointing to them.

Spelling

Plate 8: The child is told to, "Find the letter of the alphabet. Point to it."

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of the oral directions by following them correctly.
4. Demonstrates an understanding of the concepts "letter", "find", and "point".
5. Demonstrates that he knows the difference between a letter and a number by matching a letter and a letter, and a number and a number.
6. Locates the box.
7. Selects the correct response by pointing to it.

Plate 14: The child is told: "Here are four different words. Find the word 'on'. It is the one word that starts with the 'ah' sound. Point to 'on'."

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of the oral directions by following them correctly.
4. Demonstrates an understanding of the concepts "starts", "sound", etc.
5. Can match the "ah" sound with the correct symbol.
6. Sequences sounds correctly.
7. Blends the "ah" sound correctly.
8. Looks at words.
9. Demonstrates an understanding of left-to-right sequencing.
10. Isolates sounds in words.
11. Matches isolated sounds with the sound given in the oral directions.
12. Locates the response.
13. Selects the correct response by pointing to it.

Plate 18: The child is told: "On this page, and on each of the pages to follow, you will have four choices. You are to find the correct spelling of the word I say. I will first say the word; then I will use it in a sentence and then I will say the word again."

1. Attends to task/teacher.
2. Hears teacher's voice.
3. Demonstrates an understanding of the oral directions by following them correctly.
4. Demonstrates an understanding of concepts such as "choice", etc.
5. Looks at words.
6. Demonstrates an understanding of left-to-right sequencing.
7. Isolates sounds in words.
8. Matches isolated sounds with the word given in the oral directions.
9. Locates the response.
10. Selects the correct response by pointing to it.

General Information

Question 41

1. Attends to teacher/task.
2. Hears teacher's voice.
3. Demonstrates he understands the concepts in the oral questions such as "bigger", etc.
4. Matches the question with previously learned background information.
5. Says the answer.

Task Analysis of the
Stanford Diagnostic
Arithmetic Test, Level
I, by Previous Participants.
(Use in Activity 2e)

Tasks Pertinent to all Subtests

1. Attends to teacher
2. Demonstrates an understanding of the key words in the directions
3. Locates correct row

Test 1:

1-A. Number System, Counting

1. Demonstrates an understanding of the concept of 0
2. Matches correct quantity and symbols
3. Writes numerals
4. Demonstrates one to one correspondence
5. Identifies numerals
6. Counts forward by 1/4, 1's, 10's, 2's, 5's, 3's
7. Counts backwards by 1's, 2's, 5's
8. Demonstrates an understanding of the concept of number line
9. Partial counts

1-B. Operations

1. Demonstrates an understanding of the concept of =, +, -, x
2. Matches correct quantity and symbol
3. Identifies numerals
4. Demonstrates an understanding of the commutative property of addition
5. Demonstrates an understanding of the associative property of addition
6. Demonstrates an understanding of the inverse operations of addition and subtraction
7. Demonstrates an understanding of the relations between addition and subtraction
8. Demonstrates an understanding of the commutative property of multiplication
9. Demonstrates an understanding of the distributive property over addition

10. Demonstrates an understanding of the distributive property over subtraction
11. Demonstrates an understanding of the inverse operations over multiplication
12. Demonstrates an understanding of the concept of sets and number links
13. Demonstrates an understanding of the concept of greater than
14. Computes basic facts
15. Writes numerals

1-C. Decimal Place Value

1. Writes numerals
2. Identifies numerals
3. Matches with its correct quantity symbol
4. Can sequence numbers by value
5. Demonstrates an understanding of the concept of greater than and less than
6. Demonstrates an understanding of the concept of place value: ones, tens, hundreds, thousands
7. Counts by 10's, 20's
8. Partial counts
9. Expanded notation
10. Can add, subtract, multiply, divide
11. Selects correct response and writes in or circles the answer.

Test 2: Computation

2-A Addition

1. Identifies numerals
2. Demonstrates an understanding of +, =, -.
3. Place value concept of ones, tens, hundreds column
4. Quantity-symbol match
5. Adds together the numerals on the right side of the column of numbers
6. Computes basic addition facts
7. Writes that total under the column

8. Demonstrates an understanding of renaming total numbers above the number 9
9. Adds together each successive row of numbers moving right to left and renaming when necessary
10. Rewrites horizontal problem to vertical problem
11. Addition of 0
12. Partial counts
13. Writes answers

2-B. Subtraction

1. Demonstrates an understanding of -, ____
2. Identifies numerals
3. Quantity-symbol match
4. Place value concept of ones, tens, hundreds column
5. Moves to right hand side of problem
6. Take bottom number from top number in first column to the right
7. If the bottom number is larger than the top number, borrow from top number in the next row to the left
8. Can rename each column
9. Computes basic subtraction and addition facts
10. Writes answer under each column moving right to left

2-C. Multiplication

1. Identifies numerals
2. Demonstrates an understanding of the concept of multiplication, x and ____
3. Quantity-symbol match
4. Demonstrates an understanding of place value
5. Can do basic multiplication facts
6. Can do 2 and 3-digit multiplication
7. Can multiply with zero
8. Demonstrates an understanding of the concept of carrying
9. Demonstrates an understanding of the concept within multiplication

10. Computes each answer using the appropriate concept
11. Writes the answer in the appropriate location

2-D. Division

1. Demonstrates an understanding of the concept of division
2. Demonstrates an understanding of the concepts of ÷, ____
3. Identifies numerals
4. Quantity-symbol match
5. Place value concept of ones, tens, hundreds
6. Can do basic division facts
7. Can do 1, 2, and 3 digit division
8. Uses multiplication and subtraction procedures within division
9. Demonstrates an understanding of the concept of division of zero
10. Demonstrates an understanding of the concept of remainders
11. Uses 2-place divisors
12. Computes the answer
13. Writes answer in appropriate box

Test 3: Number Facts

3-A. Addition

1. Matches auditory numeral names with correct number symbols
2. Quantity-symbol match
3. Demonstrates an understanding of +, =
4. Writes numerals
5. Partial counts
6. Computes the answer using the addition process
7. Writes the answer in the appropriate space

3-B. Subtraction

1. Matches auditory numeral names with correct number symbols
2. Quantity-symbol match
3. Demonstrates an understanding of -, =

4. Writes numerals
5. Computes answer using addition and subtraction processes
6. Writes answer

3-C. Multiplication

1. Matches auditory numeral names with correct number symbols
2. Quantity-symbol match
3. Demonstrates an understanding of x, =
4. Writes numerals
5. Computes answer using addition and multiplication processes
6. Writes answer

3-D. Division

1. Matches auditory numeral names with correct number symbols
2. Quantity-symbol match
3. Demonstrates an understanding of ÷, =
4. Writes numerals
5. Computes answer using multiplication and division processes
6. Writes answer

Introduction to Task Analysis

Task Analysis of the Stanford
Diagnostic Reading Test, Level 1,
by Previous Participants.
(Use in Activity 2e)

Test 1, Reading Comprehension

1. Attends to teacher/task.
2. Demonstrates an understanding of the teacher's verbal directions by correctly following them (each, cross, in front, not, etc.).
3. Locates correct item.
4. Reads (a. matches sound with correct letter, b. sequences, c. blends) or recognizes words.
5. Demonstrates an understanding of the concept of a sentence.
6. Reads at a speed sufficient to comprehend.
7. Matches question with previously learned included in the response items.
8. Select correct response and marks an X on it.

Test 2, Vocabulary

1. Attends to teacher/task.
2. Demonstrates an understanding of the key words in the directions by correctly following them.
3. Locates first sample.
4. Repeats words or decodes (matches letter sound with correct letter, sequences, blends).
5. Matches stimulus word with previously learned.
6. Selects correct response and marks an X on it.

Test 3, Auditory Discrimination

1. Attends to teacher/task.
2. Demonstrates he understands directions by correctly following them.
3. Locates correct item.

4. Repeats words.
5. Isolates sounds (word analysis).
6. Matches sounds of words
7. Selects correct response and marks an x on it.

Test 4, Syllabication

1. Attends to teacher/task
2. Demonstrates he understands the concepts of "first" and "syllable" by correctly identifying them
3. Recognizes words or decodes (sound/symbol, sequencing, blending)
4. Applies syllable rule
5. Selects correct response and marks an x

Test 5, Beginning and Ending Sounds

1. Attends to teacher/task
2. Demonstrates he understands the concepts of "beginning" and "ending" by correctly identifying them
3. Locates correct row
4. Identifies pictures
5. Isolates sound (word analysis)
6. Matches picture with letter sounds that begin or end word
7. Selects correct response by marking an x

Test 6, Blending

1. Attends to teacher/task
2. Demonstrates he understands directions by correctly following them
3. Demonstrates he understands the concepts of "first", "second", and "last"
4. Locates response items
5. Spells words correctly
6. Repeats words
7. Isolates sounds
8. Matches sounds and letter symbols (sound/symbol correspondence)

9. Sequences sounds

10. Selects the correct response and marks an x

Test 7, Sound Discrimination

1. Attends to teacher/task
2. Demonstrates he understands directions by correctly following them
3. Demonstrates he understands the concept of "underline", etc.
4. Recognizes word or decodes (sound/symbol, sequencing, blending)
5. Isolates underlined sound
6. Matches underlined sound to sounds in other words
7. Selects correct response and marks an x

Task Analyses of Wisconsin
Test of Reading Skill
Development, Level A, by
Previous Participants.
(Use in Activity 2e)

Test 1, Rhyming Words

1. Attends to oral directions.
2. Demonstrates an understanding of the directions by correctly following them.
3. Demonstrates an understanding of the concepts in directions ("rhymes").
4. Locates correct row.
5. Repeats words.
6. Isolates sounds.
7. Matches sounds for rhyming elements.
8. Matches stimulus word with each picture to find rhyme.
9. Selects correct picture by filling in the circle under it.

Test 2, Rhyming Phrases

1. Attends to oral directions.
2. Demonstrates an understanding of directions by correctly following them.
3. Demonstrates an understanding of the concepts in directions ("rhymes," "verse").
4. Locates correct row.
5. Repeats words and verse.
6. Isolates sounds and/or words.
7. Matches sounds and/or words for rhyming elements.
8. Selects correct answer and fills in the circle beneath it.

Test 3, Shapes

1. Attends to oral directions.
2. Demonstrates an understanding of the concepts in directions ("exactly alike" and "different").
3. Locates correct row.
4. Matches stimulus shape with response items.
5. Selects the correct answer by filling in the circle under it.

Test 4, Letters and Numbers

1. Attends to oral directions.
2. Demonstrates an understanding of directions by correctly following them.
3. Demonstrates an understanding of concepts in directions ("exactly alike").
4. Locates correct row.
5. Isolates response items.
6. Matches stimulus with response items.
7. Selects correct answer by filling in the circle beneath it.

Test 5, Words and Phrases

1. Attends to oral directions.
2. Demonstrates an understanding of directions by correctly following them.
3. Demonstrates an understanding of concepts in directions ("same").
4. Locates correct row.
5. Isolates response items.
6. Matches stimulus with response items.
7. Selects correct answer by filling in the circle beneath it.

Test 6, Colors

1. Attends to oral directions.
2. Demonstrates an understanding of the key words in the directions ("look," "point," "row," etc.)
3. Locates correct row.
4. Repeats word.
5. Matches word with box of the same color.
6. Points to the correct answer.

Task Analyses of Wisconsin
Test of Reading Skill Development, Level B, by Previous
Participants.
(Use in Activity 2e)

Test 1, Sight Vocabulary

1. Attends to card.
2. Demonstrates an understanding of the language of directions by correctly following them.
3. Recognizes words (not sufficient time to decode).
4. Says word.

Test 2, Follows Left to Right Sequence

1. Attends to task.
2. Demonstrates an understanding of the language of directions by correctly following them.
3. Locates correct row.
4. Identifies symbol.
5. Finds starting place.

Test 4, Ending Consonant Sounds

1. Attends to oral directions.
2. Demonstrates an understanding of concepts in directions ("left", "ending").
3. Locates correct item.
4. Repeats stimulus word.
5. Isolates ending sound (word analysis).
6. Matches sounds to symbols (sound/symbol correspondence).
7. Selects correct answer by filling in the circle beneath it.

Part II of Test 4

1. Attends to oral directions.
2. Demonstrates an understanding of concepts in directions ("right," "same," "ending.")
3. Locates correct item.
4. Repeats stimulus word.
5. Isolates ending sounds.
6. Matches ending sounds.
7. Reads "yes" or "no".
8. Fills in the correct circle.

Test 5, Consonant Blends

1. Attends to oral directions.
2. Demonstrates an understanding of the directions by following them correctly.
3. Demonstrates an understanding of concepts in directions ("first two letters").
4. Locates correct item.
5. Repeats stimulus word.
6. Isolates first two sounds (word analysis).
7. Matches sounds to letters (sound/symbol correspondence).
8. Selects correct answer by filling in the circle.

Test 6, Rhyming Elements

1. Attends to oral directions.
2. Demonstrates an understanding of the directions by correctly following them.
3. Demonstrates an understanding of concepts in directions ("rhymes").
4. Locates correct row.
5. Recognizes word or decodes (sound/symbol correspondence, sequencing, blending) stimulus and response word choices.
6. Repeats stimulus words.

7. Isolates sounds (word analysis).
8. Matches for rhyming elements.
9. Selects correct answer by filling in the circle.

Test 7, Short Vowels

1. Attends to oral directions.
2. Demonstrates an understanding of the directions by correctly following them.
3. Demonstrates an understanding of concepts in directions ("short vowel sounds").
4. Locates correct row.
5. Repeats stimulus word.
6. Isolates vowel sound (word analysis).
7. Matches sounds to letters (sound/symbol correspondence).
8. Selects correct answer and fills in the circle.

Test 8, Consonant Digraphs

1. Attends to oral directions.
2. Demonstrates an understanding of concepts in directions ("consonant digraph, consonant team").
3. Locates correct item.
4. Repeats stimulus word.
5. Isolates consonant team (beginning or ending).
6. Matches consonant team he hears to those in the box.
7. Selects correct answer and fills in the circle.

Test 9, Compound Words

1. Attends to oral directions.
2. Demonstrates an understanding of the directions by following them correctly.
3. Demonstrates an understanding of concepts in directions ("compound word").

4. Locates correct row.

5. Reads (a. matches letter sound to correct symbol, b. sequences, c. blends) or repeats words or recognizes words.

6. Matches response choices with previous knowledge about compound words to determine if response choice contains two words.

7. Selects correct answer and fills in circle.

Test 10, Contractions

1. Attends to oral directions.

2. Demonstrates an understanding of the directions by correctly following them.

3. Demonstrates an understanding of concepts in directions ("contraction").

4. Locates correct item.

5. Repeats the sentence or decodes (sound/symbol match, sequencing, blending) or recognizes the words.

6. Decodes or recognizes the words in the response choices.

7. Matches response words with sentence.

8. Matches response choices with previous knowledge of contractions.

9. Demonstrates an understanding of contractions by selecting the correct answer and filling in the circle.

Test 11, Base Words and Endings

1. Attends to oral directions.

2. Demonstrates an understanding of concepts in directions ("base word," "root word").

3. Locates correct row.

4. Isolates root word.

5. Selects correct response and fills in circle.

Test 12, Plurals

1. Attends to oral directions.

2. Demonstrates an understanding of concepts in directions ("one," "more than one").

3. Locates correct item.

4. Decodes stimulus word (sound/symbol match, sequencing, blending) or recognizes it.

5. Matches stimulus word with previous information about plurals to determine if the stimulus word is "one" or "more than one."

6. Selects the correct response by filling in the circle.

Test 13, Possessives

1. Attends to oral directions.

2. Demonstrates an understanding of the directions by following them correctly.

3. Demonstrates an understanding of concepts in directions ("possessives").

4. Locates correct item.

5. Repeats stimulus phrases.

6. Matches phrase with previous information about possessives to determine which phrase contains the possessive.

7. Selects correct response by filling in the circle.

Facilitator Notes for Error Pattern Analysis

The worksheets and subtests used in this module should be those the participants have task analyzed previously. They should now have been "completed" by mythical children. The wrong answers should be circled and, on the more difficult worksheets and subtests, the correct answers should be marked in. This saves time on the part of the participants.

Those worksheets and subtests that are applicable for the example child should be completed in a manner consistent with her problem. The others, that are not on the example child's level, can be filled in in any way that is desired. Be sure all worksheets and tests that are distributed contain some kind of error pattern.

The directions for doing the worksheets and subtests should be provided so participants know what the child was supposed to do. Only when they know what was required of the child will they be able to discover what the error pattern is.

The facilitator will need to prepare "Error Pattern Analyses by Previous Participants" for Worksheets 14, 15, 16 and three subtests. If you are using a worksheet and subtest for the first time and don't have error pattern analyses that previous participants have completed, you will need to do them yourself. You might consider putting "Error Pattern Analyses by Previous Participants" in the upper right corner, however. Reading this seems to put participants more at ease for they don't feel these are checksheets with the "right" answers.

Stress to the participants that these error pattern analyses are not necessarily correct, but they are to be used by the participants to determine if they have left out any steps or misinterpreted something. The discussion that often results when participants compare their responses to what someone else did usually provide many learning experiences.

Experience has also indicated that by stressing the answers are not necessarily correct, many disagreements among participants and facilitators about whose response is correct are eliminated.

If you do prepare the "Error Pattern Analyses by Previous Participants" yourself, try not to become defensive if participants, when comparing yours with theirs, disagree with it. Facilitating can put you in many exciting learning situations also.

Encourage the participants to change partners for Activity 3b. Everyone takes a slightly different approach to error pattern analysis and it is beneficial to expose people to as many of these approaches as possible for more learning is then likely to occur.

Objectives of the Module

1. The participants, given three completed worksheets, will analyze the errors and develop an appropriate tentative conclusion with 100% accuracy.

2. The participants, given three completed subtests, will analyze the errors and develop an appropriate tentative conclusion with 100% accuracy.

Materials Needed to Complete the Module

Facilitator Materials

Activity Notes

1 transparency of the Roosevelt Test of Whatever

1 transparency of Multiplication Worksheet I

1 transparency of the Recording Sheet

1 transparency of Multiplication Worksheet II

Blank transparencies

overhead

marking pens

Participant Materials

1 copy of the Roosevelt Test of Whatever per participant

1 copy of Multiplication Worksheet I per participant

1 copy of Multiplication Worksheet II per participant

1 Activity Sheet 3a per participant

1 copy of Worksheets 14, 15, and 16 and Recording Sheets 14a, 15a and 16a per participant

1 copy of Activity Sheet 3b per participant

1 copy of 3 subtests and Recording Sheets 17a, 18a and 19a per participant

Time Needed to Complete the Module

Approximately one and one half hours is needed to complete the module.

Activity Notes For Error Pattern Analysis

1. So far we have used task analysis to gather diagnostic information. Another way to gather data that is behavioral is a process called Error Pattern Analysis.

2. Error Pattern Analysis is a procedure for examining responses made by a child. By examining a child's responses, some sources of error will be eliminated while others will become the focus of further inquiry.

(HAND OUT SCORED COPIES OF THE ROOSEVELT TEST OF WHATEVER OR ANOTHER SUBTEST YOU HAVE CHOSEN FOR THE DEMONSTRATION. IT SHOULD NOT BE A SUBTEST THE PARTICIPANTS HAVE TASK ANALYZED. PUT A TRANSPARENCY OF IT ON THE OVERHEAD.)

3. Look at the test. This is the way a child marked the test.

4. The first step of Error Pattern Analysis is to identify the errors.

(CIRCLE ALL THE ERRORS ON THE TRANSPARENCY)

5. The second step is to fill in the correct responses. It is important to know the correct answers so you can compare them with the incorrect responses. From this you can begin to determine what kind of error it is--a random one, a spelling error, etc.

(FILL IN THE CORRECT RESPONSE FOR EACH ERROR)

6. The third step is to describe the errors. First, we need to eliminate as many possible sources of error as possible. Some we can eliminate are:

   a. He can obviously follow directions because he completed part of the test correctly.

   b. He can make an "X."

7. When we start to look at this child's errors, we cannot conclude that he can name/identify the pictures or the letters.

8. I can describe one source of error this way: Predominant errors are reflected in the child marking an "X" in the top response choice.

9. The description of the errors leads to step 4: a tentative conclusion. In this case it is that errors are due to the child not being able to match the beginning sounds of the picture with the correct initial letter sound. I will state this in observable terms, on the Recording Sheet.

(PUT A TRANSPARENCY OF THE RECORDING SHEET ON THE OVERHEAD AND WRITE THE FOLLOWING: THE CHILD MARKED "X" IN THE TOP RESPONSE CHOICE TEN OUT OF TEN TIMES. HE CANNOT MATCH THE BEGINNING SOUNDS OF PICTURES WITH THE CORRECT INITIAL LETTER SOUND.)

Does anyone see any other error patterns they could describe in observable terms?

(DISCUSS RESPONSES AND RECORD THOSE THAT ARE APPROPRIATE.)

10. The fifth step would be to try to confirm this conclusion by observing the child's classroom performance in situations where the skill is required and on similar worksheets.

11. The final step (6) is based on consistent performance on many tasks. It is to write a diagnostic hypothesis. This is impossible to do because I have not observed or tested the child further. So all I can do on this test is state a tentative conclusion. Error Pattern Analysis cannot be done without actual responses of the child.

12. Sometimes, there is no error pattern on a test or worksheet. If you can't always find one, don't panic. Error Pattern Analysis may not be applicable in that case. The errors may be just random ones. Sometimes, you may not be able to see an error pattern on one test or worksheet but if you look at several examples of the child's work, you may notice one.

13. Let's look at another example.

(HAND OUT SCORED COPIES OF MULTIPLICATION WORKSHEET I AND PUT A COPY OF IT ON THE OVERHEAD.)

14. This is the first worksheet the child did. The first two steps of Error Pattern Analysis, circling the wrong answers and writing the correct ones in, have already been completed.

15. Our next step is to eliminate as many sources of error as possible. We can tell that the child can print numbers. She can follow directions because the right process, multiplication, is used and all the problems on the worksheet are completed. Do you see any other possible sources of error we could eliminate?

16. Look at problem one. The child's mistake here was due to an addition miscalculation. She carried a one but forgot to add it in. So, in the hundreds column, she put a 5 instead of a 6.

17. In the second problem, this child made a multiplication error when she multiplied 8 x 7 and got 54 instead of 56. Then, when she multiplied 8 x 2 and carried a 3 for a total of 19, she wrote down only the 9 instead of 19. So, we have a multiplication fact error and what is probably a random, or careless, error. So far, then, we have three types of errors.

18. On the third problem, her first error seemed to be in mjltiplication. She multiplied 7 x 5 and added 3 but got 48 instead of 38. Her second error occured when she multiplied 4 x 5. It seems as if she didn't do this step at all. It appears she wrote down what 4 x 4 plus 2 was and forgot the next step.

Her next error occured when she moved too many columns over when she was multiplying 545 by the 2 in the hundreds column.

So, here we have three kinds of errors. A multiplication fact error, a random one where she may have forgotten to complete the multiplication process and what might be called a place value error.

19. On the fourth problem, the 7 x 5 multiplication fact problem appears again. It seems she thinks 7 x 5 = 45 which accounts for carrying 4 instead of 3.

Another problem occurs in her addition work. She carried a one into the thousands column but seemed to forget to add it in. This also occurred in problem one. Then, instead of putting just a one in the ten thousands column, she put a ten.

20. From the analysis of this worksheet, a pattern of errors is beginning to appear, but nothing is definite. There appear to be some basic multiplication fact errors, a place value error, some addition errors and some miscellaneous, or random ones. Do any of you see other error patterns?

(DISCUSS RESPONSES.)

21. In this case, before we state a tentative conclusion about the error pattern, we would probably want to check out another example of her work.

22. Let's look at the second multiplication worksheet she did.

(HAND OUT SCORED COPIES OF MULTIPLICATION WORKSHEET II AND PUT A TRANSPARENCY OF IT ON THE OVERHEAD.)

23. In problem two on this worksheet, her error is in addition. When multiplying 847 by the 4 in the tens column, she made her error. She multiplied 4x4 and added one for 18 instead of 17.

24. In the third problem, the 8x7 multiplication fact error appears again. She got 54 and added a one instead of getting 56.

25. On the sixth problem on this page she again multiplied 8x7 and added 3 for 56 instead of 59. Then when she added up all of her columns she made some mistakes also. Everything went fine until she added 3+6 plus a carried one in the ten thousands column. Instead of getting 10 she came up with a three. The other two numbers don't belong there either and it is difficult to figure out how she got them. Any suggestions?

26. When we look at these two worksheets together, a more definite error pattern appears.

(PUT THE RECORDING SHEET TRANSPARENCY ON THE OVERHEAD AND WRITE THE FOLLOWING:)

Stated in observable terms, the child computes 7x5 as 45 and 8x7 as 54. That is one pattern and the most noticeable.

27. She also has some problems remembering to add in a one she has carried over from another column. This occurred two times but there were other instances where she did add in a carried number.

28. Her other errors appear only once. She wrote down 9 one time instead of 19. She forgot to multiply one figure. She made one place value error. Do any of you see other error patterns that have not been mentioned?

(DISCUSS RESPONSES AND RECORD THOSE THAT ARE APPROPRIATE.)

29. In my searching for an error pattern, there are other examples of her work that I would probably check out. For example, I would want to see some of her work where she was multiplying by only one digit. I might also want to look at some examples of her addition work.

30. Any questions or comments about error pattern analysis?

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD.)

31. Let's review the six steps of Error Pattern Analysis:

    a. Finding and marking the errors

    b. Filling in correct response

    c. Describing the errors

    d. Writing a tentative conclusion

    e. Confirming the conclusion

    f. Writing a diagnostic hypothesis

32. We only do the first four and end up with a tentative conclusion. We cannot call our tentative conclusion a diagnostic hypothesis because we have not confirmed it by other performances.

33. Error Pattern Analysis is only one procedure of diagnosis. It is not valid in itself. It should be used along with other diagnostic techniques such as observation, task analysis, formal and informal testing, etc.

34. The first activity we're going to do is analyze the error pattern of three Worksheets. Be sure to check your answers with those of previous participants after you have finished each Worksheet. Try to state your tentative conclusion in observable terms. Try not to make any interpretations.

(HAND OUT ACTIVITY SHEET 3a, WORKSHEETS 14, 15 and 16 AND RECORDING SHEETS 14a, 15a AND 16a TO EACH PARTICIPANT. IT IS RECOMMENDED THAT THE WORKSHEETS USED IN THIS ACTIVITY BE THREE OF THOSE USED IN THE TASK ANALYSIS ACTIVITY. THESE SHOULD NOW BE "COMPLETED" BY A MYTHICAL STUDENT. THE WORKSHEETS THAT YOUR EXAMPLE STUDENT COULD HAVE COMPLETED SHOULD CONTAIN ERRORS CONSISTENT WITH HER DEFINED PROBLEM. BE SURE AN ERROR PATTERN IS PRESENT.)

Activity Sheet 3a

1. Analyze the error pattern on Worksheets 14, 15 & 16.
2. Determine a tentative conclusion and write it on the Recording Sheets, 14a, 15a or 16a.
3. Compare your conclusions with those reached by previous participants.
4. Select your conclusions, those done by the previous participants, or a combination of both, as your final conclusions.

35. The next activity applies Error Pattern Analysis to subtests. Please check your answers with those previous participants did after you finish each subtest.

(HAND OUT ACTIVITY SHEET 3b, THREE SUBTESTS AND RECORDING SHEETS 17a, 18a & 19a. IT IS RECOMMENDED THAT THE SUBTESTS BE THREE OF THOSE USED IN THE TASK ANALYSIS ACTIVITY.

THESE THREE SHOULD NOW BE "COMPLETED" BY A MYTHICAL STUDENT. AT LEAST ONE SHOULD BE ONE YOUR EXAMPLE CHILD COULD HAVE "COMPLETED." THE ERRORS SHOULD BE CONSISTENT WITH HER DEFINED PROBLEM. BE SURE AN ERROR PATTERN IS PRESENT.)

Activity Sheet 3b

1. Analyze the error pattern on three subtests.
2. Determine a tentative conclusion and write it on Recording Sheets 17a, 18a & 19a.
3. Compare your conclusions with those reached by previous participants.
4. Select your conclusions, those done by previous participants or a combination of both, as your final conclusions.
5. Return to the large group for discussion.

(AFTER THE PARTICIPANTS HAVE COMPLETED ACTIVITY 3b, BRING THEM BACK TO THE TOTAL GROUP.)

36. Let's review the six steps of Error Pattern Analysis:

a. Find and mark errors

b. Fill in the correct response

c. Describe errors

d. Write a tentative conclusion

e. Confirm the conclusion

f. Write a diagnostic hypothesis

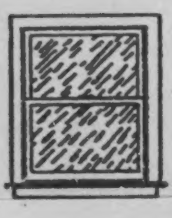
37. Any questions or discussion?

Use in Error Pattern
Analysis Demonstration.
(Activity 3)

Error Pattern Analysis
Roosevelt Test of Whatever

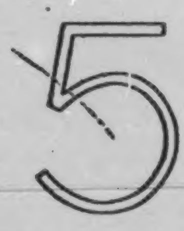
Directions: Fill in the circle beside the letter of the beginning sounds of what you see in the pictures.

1.



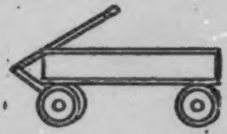
(X) W
( ) M
( ) P

2.



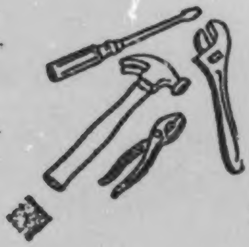
(x) T
( ) S
( ) F

3.



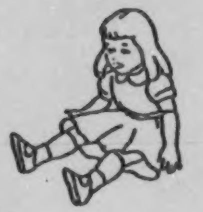
(x) C
( ) B
( ) W

4.



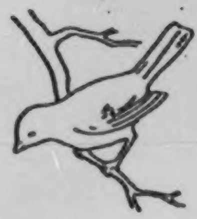
(x) L
( ) T
( ) H

5.



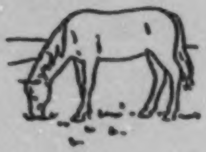
(x) H
( ) D
( ) A

6.



(x) B
( ) G
( ) N

7.

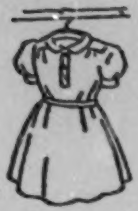


(X) H

(   ) T

(   ) F

8.

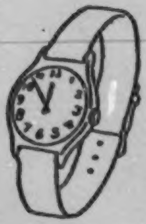


(X) K

(   ) S

(   ) D

9.

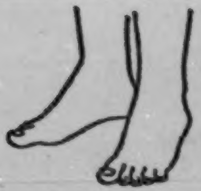


(X) C

(   ) W

(   ) L

10.



(X) A

(   ) F

(   ) C

Error Pattern Analysis

Recording Sheet for the
Error Pattern Analysis
Demonstrations.
(Use in Activity 3)

Demonstration I: The Roosevelt Test of Whatever

Tentative Conclusion:

Demonstration II: Multiplication Worksheets I & II

Tentative Conclusion:

ERROR PATTERN ANALYSIS

Use in Error Pattern
Analysis Demonstration.
(Activity 3)

Multiplication Worksheet I

1.

$$\begin{array}{r} 247 \\ \times\ 25 \\ \hline 1235 \\ 4940 \\ \hline (5175) \\ \\ 6275 \end{array}$$

2.

$$\begin{array}{r} 247 \\ \times\ 801 \\ \hline 247 \\ 000 \\ 97400 \\ \hline (97647) \\ \\ 197847 \end{array}$$

3.

$$\begin{array}{r} 545 \\ \times\ 247 \\ \hline 4815 \\ 1800 \\ \hline 1090000 \\ \hline (1096615) \\ \\ 134615 \end{array}$$

4.

$$\begin{array}{r} 247 \\ \times\ 45 \\ \hline 1245 \\ 9880 \\ \hline (100125) \\ \\ 11115 \end{array}$$

5.

$$\begin{array}{r} 247 \\ \times\ 42 \\ \hline 494 \\ 9880 \\ \hline (10374) \\ \\ 10374 \end{array}$$

ERROR PATTERN ANALYSIS

Use in Error Pattern
Analysis Demonstration.
(Activity 3)

Multiplication Worksheet II

1. 1010
x 247
7070
40400
202000
(249470)

249,470

2. 7432
x 247
52024
298280
1486400
(1836704)

1,835,704

3. 382
x 247
2654
15380
76400
(94434)

94,354

4. 482
x 247
3374
19280
96400
119054

5. 222
x 247
1554
8880
44400
54834

6. 847
x 247
5729
33880
169440
(1739009)

209,209

Error Pattern Analysis

Activity Sheet 3a

1. Analyze the error pattern on Worksheets 14, 15 & 16.
2. Determine a tentative conclusion and write it on the Recording Sheet 14a, 15a or 16a.
3. Compare your conclusions with those reached by previous participants.
4. Select your conclusions, those done by the previous participants, or a combination of both, as your final conclusions.

Error Pattern Analysis

Activity Sheet 3b

1. Analyze the error pattern on three subtests.
2. Determine a tentative conclusion and write it on Recording Sheets 17a, 18a or 19a.
3. Compare your conclusions with those reached by previous participants.
4. Select your conclusions, those done by the previous participants, or a combination of both, as your final conclusions.
5. Return to the large group for discussion.

Worksheets 14, 15 and 16 must be selected and prepared by the facilitator for Activity 3a. These should be worksheets that the participants have previously task analyzed. They should now have been completed by mythical children and the errors circled. An error pattern must be present.

The tentative conclusions of the error pattern analyses on these three worksheets should be recorded on Recording Sheets 14a, 15a and 16a.

Worksheets 17, 18 and 19 must be selected and prepared by the facilitator for Activity 3b. These should be subtests that the participants have previously task anlayzed. They should now have been completed by mythical children and the errors circled. An error pattern must be present.

The tentative conclusions of the error pattern analysis on these three subtests should be recorded on Recording Sheets 17a, 18a and 19a.

Error Pattern Analysis

Recording Sheet 14a
(Use in Activity 3a)

Worksheet 14

Tentative Conclusion:

Worksheet Name:______________________________

Error Pattern Analysis

Recording Sheet 15a
(Use in Activity 3a)

Worksheet 15

Tentative Conclusion:

Worksheet Name:________________________________

Error Pattern Analysis

Recording Sheet 16a
(Use in Activity 3a)

Worksheet 16

Tentative Conclusion:

Worksheet Name: ______________________

Error Pattern Analysis

Recording Sheet 17a
(Use in Activity 3b)

Subtest Name: ______________________

Tentative Conclusion:

Error Pattern Analysis

Recording Sheet 18a
(Use in Activity 3b)

Subtest Name:______________________________

Tentative Conclusion:

Error Pattern Analysis

Recording Sheet 19a
(Use in Activity 3b)

Subtest Name: ____________________

Tentative Conclusion:

Error Pattern Analysis

Error Pattern Analysis of
Worksheets 14, 15 and 16
by Previous Participants.
(Use in Activity 3a)

Worksheet 14

Tentative Conclusion:

Worksheet 15

Tentative Conclusion:

Worksheet 16

Tentative Conclusion:

Error Pattern Analysis

Error Pattern Analysis of
Three Subtests by Previous
Participants.
(Use in Activity 3b)

Subtest Name: ______________________

Tentative Conclusion:

Subtest Name: ______________________

Tentative Conclusion:

Subtest Name: ______________________

Tentative Conclusion:

Facilitator Notes for Systematic Inquiry

This is the last informal diagnostic module. In it, participants learn to gather data on a child's learning style.

The most difficult part about this module is separating a check from a systematic inquiry, or modification. The facilitator should constantly review the participants' work to be sure they have made this differentiation.

The article, "Introduction," from Psychoeducational Evaluation of the Preschool Child: A Manual Utilizing the Haeussermann Approach, can be read in total as suggested in the activity notes. However, if there is a shortage of time, the participants need only read the section, "Probes" on page 4.

When participants form dyads to complete Activities 4a and 4b, they may be in a dyad with a person who was not their partner during the task analysis activities. This means that their task analyses of Worksheets 4,5,6 and 8 and Subtests 9 and 10 may differ. Suggest to them that they select one person's task analysis of Worksheet 4 and complete systematic inquiries for that one only. Then, the other person's Worksheet 5 can be used for the second systematic inquiry endeavor and so forth.

An outcome of having a new partner for the Systematic Inquiry activities is that a helpful discussion about why certain tasks were omitted or added may result.

Encourage the participants to change partners for Activity 4b. Everyone takes a slightly different approach to Systematic Inquiry and it is beneficial to expose people to as many of these approaches as possible for more learning is then likely to occur.

The facilitator will need to prepare "Systematic Inquiries by Previous Participants" for Worksheets 4,5,6 and 8 and Subtests 9 and 10. If you are using a worksheet and subtest for the first time and don't have systematic inquiries that previous participants have completed, you will need to do them yourself. You might consider putting "Systematic Inquiries by Previous Participants" in the upper right corner, however. Reading this seems to put participants more at ease for they don't feel these are checksheets with the "right" answers.

Stress to the participants that these systematic inquiries are not necessarily correct, but they are to be used by the participants to determine if they left out any steps or misinterpreted something. The discussion that often results when participants compare their responses to what someone else did usually provides many learning experiences.

Experience has also indicated that by stressing the answers are not necessarily correct, many disagreements among participants and facilitators about whose response is correct are eliminated.

If you do prepare the "Systematic Inquiries by Previous Participants" yourself, try not to become defensive if participants, when comparing yours with theirs, disagree with it. One of the most fun things about facilitating is the learning you can also do!

Objectives for the Module

1. The participants will read the article, "Introduction," from Psychoeducational Evaluation of the Preschool Child: A Manual Utilizing The Haeussermann Approach, define the two types of probes, and give examples of them, with 95% accuracy.

2. The participants, given four completed academic worksheets that have been previously task analyzed, will write a method for checking each subtask in the Check column of the recording sheet with 100% accuracy.

3. The participants, having completed Objective #1, will write at least two systematic inquiries for each subtask of the four academic worksheets in the Systematic Inquiries column of the recording sheet, with 90% accuracy.

4. The participants, given two completed subtests that have been previously task analyzed, will write a method for checking each subtask in the Check column of the recording sheet, with 100% accuracy.

5. The participants, having completed Objective #1, will write at least two systematic inquiries for each subtask of the two subtests in the Systematic Inquiries column of the recording sheet, with 100% accuracy.

Materials Needed for the Module

Facilitator Materials

Activity Notes

Blank transparencies

1 copy of Test 7, Level A, of the Wisconsin Tests of Reading Skill Development

2 transparencies of the Systematic Inquiry Recording Sheet

1 transparency of the Basic Math Inventory Subtest

Systematic Inquiries by Previous Participants of Worksheets 4,5,6 and 8

Systematic Inquiries by Previous Participants of Subtests 9 and 10

1 transparency of

Reasons for	Problems	Ways to Solve

overhead

marking pens

Participant Materials

1 copy of the article, "Introduction" from Psychoeducational Evaluation of the Preschool Child: A Manual Utilizing the Haeusserma Approach per participant

1 copy of Test 7, Level A, from the Wisconsin Tests for Reading Skill Development

2 Systematic Inquiry Recording Sheets

1 copy of the Basic Math Inventory Subtest per particip

1 Activity Sheet 4a per participant

1 set of Task Analysis Workshe 4,5,6 and 8 and Recording Shee 4a,5a,6a and 8a per participan

1 Activity Sheet 4b per partic

1 set of Subtests 9 and 10 and Recording Sheets 9a and 10a pe participant

Time Needed to Complete the Module

Approximately two hours will be needed for participants to complete the module.

Activity Notes for Systematic Inquiry

1. Now we have task and error pattern analyses of some subtests and worksheets. We need to try to pinpoint what a child can and can't do even further through a process called Systematic Inquiry.

2. In Systematic Inquiry we look at each task and ask ourselves:

   "If Sally couldn't do this task, how could I change it so she might be able to do it?"

   a. Then, you could modify the task and ask her to do it in the way you've modified it to see if she could do it in this new way or if she still missed it.

   b. If she can do it in the new way you've restructured the task, you have a clue to her learning style.

   c. What you're doing is restructuring the tasks in such a way as to control the range of possible sources of error.

(GIVE EACH PARTICIPANT A COPY OF THE ARTICLE "INTRODUCTION," FROM PSYCHO-EDUCATIONAL EVALUATION OF THE PRESCHOOL CHILD: A MANUAL UTILIZING THE HAEUSSERMANN APPROACH BY JEDRYSEK, KLAPPER, POPE AND WORTIS. AFTER ABOUT TWENTY MINUTES, DISCUSS THE ARTICLE WITH THE WHOLE GROUP.)

3. Task Analysis identified the subtasks necessary to complete the objective. The list of subtasks represents a range of possible sources of error.

4. In order to identify the specific causes for a child's failure on a task, it is necessary to restructure the task in such a way as to control the range of the possible sources of error. This restructuring is Systematic Inquiry.

5. We modify the task to assess the amount and kind of assistance the child needs to do the task.

6. As the Haeussermann article points out, there are two ways to modify the task: laterally and downwardly. An example of a lateral modification is if a child does poorly on a phonics page from the Ginn series, the teacher would give him a phonics page covering the same material but from the Houghton-Mifflin series. A downward modification is a more substantial modification of the task. Who can suggest some types of downward modifications?

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD RESPONSES. EXAMPLES OF RESPONSES ARE:

   1. Provide fewer choices

   2. Simplify the response the child must make

   3. Make the items more different from each other

4. Make the task concrete

5. Modify the way you present the stimulus

6. Modify the response mode

7. Change key words in the directions.)

7. There are two rules in systematic inquiry:

(WRITE THESE ON AN OVERHEAD TRANSPARENCY)

a. Make as minor an alteration as possible.

The restructured task should be as similar to the original task as possible. This ensures that the original skill is still being assessed.

b. Make only one alteration in a task at a time.

This allows for the systematic elimination of error. When you make only one alteration at a time and the child can then learn a task because of that modification, you have definitely pinpointed a way to teach him.

This rule is occasionally not held to because it is sometimes not possible to make only one alteration at a time. For example, occasionally when you make an alteration in the way you present the stimulus, or task, you automatically change the way the child is to respond.

8. There may be some tasks for which no modification is possible. You just have to teach that subtask. For example, when looking at the subtasks "match letter sound with correct letter symbol," you can make several modifications. But if the modifications don't work, you may finally just have to teach him what sound the letter makes.

(WRITE THESE ON AN OVERHEAD TRANSPARENCY)

9. We make inquiries in a specific order.

a. The first inquiry we usually make is to change the task so it calls for an alternative response.

For example, instead of asking the child to write the answer, we ask him to say it to us.

b. If the child still can't do the task after we've asked him to respond in a different way, then we

1. Administer the check list we constructed for each subtask and find out which ones the child can't do.

2. Then, we take the subtasks he can't do and modify them.

   a. Again, the first modification we try with each subtask is to change it so it calls for a different type of response.

   b. If that doesn't work, we make other changes such as modifying the way we present the task, making it more concrete and so forth.

10. Most tasks are usually presented to the child through the auditory, visual or tactile channels or a combination of these.

11. Most responses the child is asked to make are either motor, such as writing; verbal; or gestural, such as pointing or nodding his head.

12. Any questions?

(HAND OUT COPIES OF TEST 7 OF THE WISCONSIN TESTS FOR READING SKILL DEVELOPMENT, LEVEL A AND A SYSTEMATIC INQUIRY RECORDING SHEET TO EACH PARTICIPANT.)

(PUT A TRANSPARENCY OF THE RECORDING SHEET ON THE OVERHEAD.)

13. Let's do a quick task analysis of this test. (RECORD THE PARTICIPANTS' RESPONSES. A SUGGESTED TASK ANALYSIS MIGHT INCLUDE THE FOLLOWING SUBTASKS:

   a. Attends to teacher and/or task.

   b. Demonstrates an understanding of the language of directions.

   c. Locates the correct row.

   d. Identifies the picture.

   e. Repeats words.

   f. Isolates beginning sounds.

   g. Matches initial sound of the stimulus word to initial sounds of other words (sound/symbol correspondence).

   h. Selects correct response by marking an "X".)

14. Now let's apply the process of systematic inquiry. Following our rules, we would first change the task to allow for an alternative response. This is the most minor change we can make.

15. So, I would present the exact same test to the child but ask him for a verbal, instead of written, response. I would say, "Which one starts like pen?"

16. Let's say the child still doesn't do well on the test even though I have provided for an alternative response. I then go to Rule 2 and check him out on each subtask. I then modify each subtask that he can't do. For the sake of demonstration, let's say we check the child out and he can't do any of the subtasks.

(THE FOLLOWING ARE POSSIBLE WAYS TO CHECK EACH SUBTASK OF WISCONSIN READING TEST A7. THE TASKS WILL VARY ACCORDING TO HOW THE GROUP TASK ANALYZES THE TEST.

THE SYSTEMATIC INQUIRY, CHECKS, AND TASK ANALYSIS OF TEST A7 ARE LISTED ON THE PAGE ENTITLED SYSTEMATIC INQUIRIES - TASK ANALYSIS, CHECKS & SYSTEMATIC INQUIRIES FOR WISCONSIN READING TEST A7.

IT IS SUGGESTED THAT THE FACILITATOR DO THE INITIAL DEMONSTRATION WITHOUT INPUT FROM THE GROUP. EMPHASIZE THE SEQUENCE OF THE PROCEDURE. AVOID RAPID LISTING IN A MATTER-OF-FACT FASHION. ASSUME THE ROLE OF A DELIBERATE QUESTIONER AND "DIALOGUE" WITH YOURSELF, EMPHASIZING THE RULES AND ORDER OF SYSTEMATIC INQUIRY.)

17. The first subtask concerns attending to the task and/or teacher.

(THIS SUBTASK SHOULD ALREADY BE RECORDED ON THE TRANSPARENCY UNDER TASK ANALYSIS. IF NOT, DO SO. DO THIS WITH ALL THE FOLLOWING SUBTASKS ALSO.)

18. To develop a check, or test, for this subtask you first must define what attending is using observable words. Set a time limit as part of your definition. Is it five seconds of eye contact with the workbook page? Two minutes? Then observe to see if the child is attending according to your definition.

(RECORD THIS ON THE TRANSPARENCY UNDER CHECK. DO THIS WITH ALL THE FOLLOWING CHECKS.)

19. If he isn't attending, the following Systematic Inquiries might be made:

    a. Use cue words
    b. Use clicker
    c. Decrease the amount of work you give him
    d. Set up a system where you reward him each time he attends

(RECORD THESE ON THE TRANSPARENCY UNDER SYSTEMATIC INQUIRIES. DO THIS WITH ALL THE FOLLOWING SYSTEMATIC INQUIRIES.)

Any other suggestions?

20. The second subtask concerns demonstrating an understanding of the key words in the directions. There are several key words in these directions such as "same," "starts," "letter" and "sound."

21. You need to test the child's knowledge of each. For example, on the word "same," show him two identical pictures and ask if these are the same. For the word "starts" ask him to show you the letter that starts the word or where you start playing a game on the game board.

22. Some systematic inquiries are:

    a. change words "same" to "alike"

    b. change the modalities through which you present the directions

Any other suggestions?

23. Locate the correct row is the next task. A way to check to see if the child can do this is to ask him to show you where he's going to start working.

24. If the child still fails the task, we can modify it by:

    a. modeling the task

    b. cutting up the page

    c. drawing arrows under the row showing the direction he is to go

    Any other suggestions?

25. Identifies pictures is the fourth task. Some ways to check the child on this are to:

    a. Ask him to name the pictures. Be sure and give him enough time to do this. Don't rush him.

    b. If he can't name them, the examiner should say the picture names and ask the child to point to them as she says them.

    c. If he can't point to them, give him concrete objects that represent each picture. Give him time to feel each object and examine it. Then, ask him what it is. If he can't name it, put it with some other concrete objects, say the name and ask him to point to the object you named.

       Some pictures, such as house, present difficulties when you try to bring them "concretely" into the classroom. You might try getting a picture of the child's house to substitute that for the concrete object.

26. If the child can't do the task, we can modify it by:

    a. using the same pictures but make them more simple

    b. using the same pictures but make them larger

    c. changing the pictures to ones he can identify

    Any other suggestions?

27. Another task is for the child to repeat the stimulus and response words. He can do this either silently or out loud. About the only way to check this is to ask the child if he does it. If he doesn't know what you mean, Model it for him.

28. If the child can't do this, we can modify the task by modeling it for him and then asking him to do it. This is one of those subtasks that is difficult to modify. Teaching it may be the only recourse.

    Any other suggestions?

29. The next task is isolates beginning sound. A way to check this is to:

   a. Say a word to the child very slowly and ask him to tell you what sound the word began with.

   b. If he doesn't respond correctly, put a written word in front of him. Say the word and ask him to tell you what sound the word began with. Don't let him only point to the letter or write it because you still wouldn't know if he could isolate the sound orally.

   c. Put a real baseball bat in front of the child. Say the word bat and ask him to tell you what sound the word began with.

   Your checks are steadily becoming more concrete.

30. If the child can't do this subtask, we could make these modifications:

   a. Model for the child by saying the word slowly and emphasizing the beginning sound. Then repeat the isolated sound by itself. Next, ask him to say the word slowly and emphasize the beginning sound. Then ask him to say only the emphasized sound in isolation.

   b. Put a picture or the written name of the object in front of the child to help him remember the beginning sound.

   c. Put a concrete object in front of the child to help him remember the beginning sound.

   Any other suggestions?

31. The next one is to match the initial sound of the stimulus word with the initial sounds of the response words. A way to check it is to:

   a. Say "I'm going to say some words that begin alike. You say them after I do - ball, baby." Give the child time to repeat them.

   Then say, "Now I'm going to read more words. You say them after I do. Then tell me if the words begin alike or not - bell, bird, (pause and let the child respond) - dog, stop," etc.

   b. If the child fails the above, repeat the same procedure using two words plus a picture of each word.

   c. If he can do step "a," repeat step "a" using three and four words; do step "b" using three and four words if necessary.

32. Some ways to modify this subtask are to:

   a. Present the task the same way but decrease the number of words (pictures) he must compare the stimulus word (picture) to.

   b. Say the correct beginning sound (the sound of the stimulus word and ask the child to point to the picture that has the same sound.

c. Remove visual cues and present the task auditorially and have the child respond auditorially.

Any other suggestions?

33. Selects the correct response by marking an "X" is the last subtask. A way to check this is to ask the child to make an "X" on a response - at this point, don't worry about an "X" on the correct response.

34. Ways to modify the subtask are:

a. Have the child draw a line under, or circle the correct response.

b. Ask him to point to the correct response.

c. Decrease the number of responses the child is to select the correct one from.

d. Ask him to give the correct response orally.

(SOME PARTICIPANTS MAY SUGGEST "d." HOWEVER, YOU SHOULD NOT ACCEPT IT AS A MODIFICATION SPECIFICALLY FOR THIS SUBTASK FOR IT IS THE FIRST SYSTEMATIC INQUIRY THEY SHOULD HAVE TRIED WHEN PROVIDING FOR AN ALTERNATIVE RESPONSE.)

Any other suggestions?

(DO A SECOND DEMONSTRATION USING A SUBTEST FROM THE BASIC MATH INVENTORY. DURING THIS DEMONSTRATION, THE GROUP SHOULD PROVIDE MOST OF THE INPUT.

BE DIRECTIVE, IF NECESSARY, REMINDING THE GROUP OF RULES AND ORDER OF INQUIRY. FOR EXAMPLE, IF A SUGGESTED INQUIRY REPRESENTS A MAJOR ALTERATION, ASK "IS THAT CLOSE ENOUGH TO THE ORIGINAL TASK? HOW COULD YOU RESTRUCTURE THE TASK SO THE CONCEPT OF THE SKILL BEING ASSESSED REMAINS UNALTERED?" IF THE SUGGESTED INQUIRY CONSIDERS NUMEROUS COMPONENTS OF THE TASK ASK, "COULD WE BREAK THAT DOWN EVEN FINER SO WE ARE MAKING ONLY ONE ALTERATION?")

(PUT A TRANSPARENCY OF A PAGE OF THE BASIC MATH INVENTORY ON THE OVERHEAD.)

(THE SYSTEMATIC INQUIRIES, CHECKS AND TASK ANALYSIS OF THE BMI ARE LISTED ON THE PAGE SYSTEMATIC INQUIRIES - TASK ANALYSIS, CHECKS AND SYSTEMATIC INQUIRIES FOR THE BMI. THE FOLLOWING ARE POSSIBLE WAYS TO CHECK AND MODIFY EACH SUBTASK OF THE BMI. THE TASKS WILL VARY ACCORDING TO HOW THE GROUP TASK ANALYZES THE TEST.)

(HAND OUT THE BMI SUBTEST AND RECORDING SHEETS TO THE PARTICIPANTS. PUT A TRANSPARENCY OF THE RECORDING SHEET ON THE OVERHEAD.)

35. Let's do a task analysis of this test.

(RECORD PARTICIPANT'S RESPONSES IN THE TASK ANALYSIS COLUMN. A SUGGESTED TASK ANALYSIS MIGHT INCLUDE THE FOLLOWING SUBTASKS.)

a. Attends to teacher/task.

b. Demonstrates an understanding of the language of directions.

c. Locates items.

d. Counts by ones to ten.

e. Demonstrates one-to-one correspondence.

f. Says the correct response.

36. Following the first rule of systematic inquiry, to provide for an alternative response, what is an alternative response for this?

(SUGGESTED ANSWER: ASK THE CHILD TO GIVE A WRITTEN RATHER THAN ORAL RESPONSE.)

37. Attends to the teacher/task is the first task. What would be a check for this?

Suggest the following:

(IF THE PARTICIPANTS DON'T RESPOND APPROPRIATELY, YOU FIRST MUST DEFINE WHAT ATTENDING IS USING OBSERVABLE WORDS. SET A TIME LIMIT AS PART OF YOUR DEFINITION. IS IT FIVE SECONDS OF EYE CONTACT WITH THE WORKBOOK PAGE? TWO MINUTES? THEN OBSERVE TO SEE IF THE CHILD IS ATTENDING ACCORDING TO YOUR DEFINITION.)

38. How could we modify it?

(IF THE PARTICIPANTS DON'T RESPOND APPROPRIATELY, SUGGEST THE FOLLOWING SYSTEMATIC INQUIRIES:

a. Use cue words.

b. Use clicker.

c. Decrease the amount of work you give him.

d. Set up a system where you reward him each time he attends.)

39. Demonstrates an understanding of the language of directions is the second subtask. What is a test for this?

(IF THE PARTICIPANTS DON'T RESPOND APPROPRIATELY, SUGGEST THE FOLLOWING: ASK THE CHILD TO POINT TO THE BOX AND STAR. TRY TO GET AT HIS UNDERSTANDING OF "HOW MANY" BY ASKING HIM HOW MANY FINGERS HE HAS, ETC.)

40. How could I modify that subtask?

(IF PARTICIPANTS DON'T RESPOND APPROPRIATELY, SUGGEST THE FOLLOWING INQUIRIES:

a. Change the words used in the directions.

b. Change the modality through which you present the directions.

c. Teach him the concept "how many"?)

41. Locates items is the third task. What would be a check for this?

(SUGGESTED CHECK: ASK HIM TO POINT TO EACH ITEM.)

42. How can I modify that?

(SUGGESTED SYSTEMATIC INQUIRIES:

a. Model the task.

b. Cut up the page.

c. Draw arrows, or other pictures, near each item. Start the test by asking the child to put his finger on the arrow, or picture, and do the item next to it.)

43. Counts by ones to ten is the fourth task. What is a test for this task?

(SUGGESTED CHECK: ASK THE CHILD TO COUNT ALOUD POINTING AT EACH OBJECT.)

44. How could I modify that?

(SUGGESTED SYSTEMATIC INQUIRIES:

a. Make the format larger.

b. Give him concrete objects to use.

c. Expose objects one at a time)

45. Demonstrates one-to-one correspondence is the fifth task. What is a check?

(SUGGESTED CHECK: GIVE THE CHILD A PAPER WITH TWO SETS OF OBJECTS ON IT. ASK HIM TO DRAW A LINE FROM THE OBJECT IN ONE SET THAT MATCHES THE OBJECT IN THE OTHER SET.)

46. How would I modify that subtask?

(SUGGESTED SYSTEMATIC INQUIRIES:

a. Use concrete objects)

47. Says the correct number is the last subtask. What kind of check could you use?

(SUGGESTED CHECK: ASK THE CHILD TO ROTE COUNT FROM ONE TO TEN TO BE SURE HE CAN SAY ALL THE NUMBERS.)

48. How would I modify that?

(SUGGESTED SYSTEMATIC INQUIRIES:

a. Write the numbers one to ten on a card. Ask the child to point to the correct answer.

b. Ask the child to give a written rather than oral response.)

(B IS THE SAME AS THE FIRST STEP PROVIDING AN ALTERNATIVE RESPONSE. TRY TO GET THE PARTICIPANTS TO SUGGEST OTHER MODIFICATIONS.)

49. Does anyone have any questions or discussion about Systematic Inquiry?

50. We're now going to apply the process to academic tasks. When we do, we're going to do a systematic inquiry for every subtask for practice. When you're using this technique in "real life," you would use it only for those subtasks a child couldn't do. So, although you would check out the child on all subtasks, you might be modifying only one or two subtasks per workbook page or test.

(HAND OUT ACTIVITY SHEET 4a)

Systematic Inquiry

Activity Sheet 4a

1. Find Task Analysis Worksheets 4, 5, 6, & 8 and Recording Sheets 4a, 5a, 6a, and 8a.
2. Select a method for checking each subtask and write it in the Check column.
3. Select at least two systematic inquiries for each subtask and write them in the Systematic Inquiries column. Be sure they are modifications of the subtask and not checks.
4. Compare your inquiries with those chosen by previous participants.
5. Select your inquiries, those chosen by previous participants, or a combination of both, as your final set of inquiries.

51. Be sure to compare your Systematic Inquiries with those of previous participants after each worksheet. Try to write your statements in observable terms.

(AFTER ABOUT FORTY-FIVE MINUTES, HAND OUT ACTIVITY SHEET 4b.)

Systematic Inquiry

Activity Sheet 4b

1. Find the Task Analysis of the two subtests you did in Activity 2d plus recording sheets 9a and 10a.
2. Select a method for checking each subtask and write it in the Check column.
3. Select at least two systematic inquiries for each subtask and write them in the Systematic Inquiries column. Be sure they are modifications of the subtask and not checks.

Continued on next page...

Systematic Inquiry cont'd. . .

4. Compare your inquiries with those chosen by previous participants.

5. Select your inquiries, those chosen by previous participants, or a combination of both, as your final set of inquiries.

6. Return to the large group for discussion.

52. Be sure to compare your Systematic Inquiries with those of previous participants after each subtest. Try to write your statements in observable terms.

(AFTER THE PARTICIPANTS HAVE FINISHED ACTIVITY 4b, ASK THEM TO RETURN TO THE LARGE GROUP FOR DISCUSSION.)

53. Systematic Inquiry is a method of gathering information on how a child learns. We can use this information to plan a prescriptive program for the child. When we do Systematic Inquiry, we also gather data on what motivates the child and what his preferences for reinforcement are. This information is also very useful to us in planning our prescriptive program.

54. When you do systematic inquiry on one worksheet or test, as we did, you may find that the modifications you made that were successful with the child are applicable to the child's functioning in many areas. For example, let's say you had completed the process of systematic inquiry on a one-digit addition worksheet and found the child needed many "concrete" clues, such as using counters in order to remember number facts. You will probably find that the child needs the same kind of modification in order to do two-digit addition and possibly subtraction facts also.

55. If the child is having difficulty in other academic areas also, you may find that he also needs "concrete" activities, such as tracing sandpaper letters, in order to learn letter sounds.

56. So, after doing systematic inquiry on several workbook pages or tests, we may be able to see a pattern in the child's learning style. When we're planning the prescriptive program, we will want to take the child's learning pattern into account.

A question, however, that we will need to ask ourselves when we're planning the prescriptive program is, "Is the modification that we need to make in order for the child to learn a skill one that can be used in a regular teaching situation? Or, is it one that will cause him to be removed from the regular teaching situation?" If it is the latter, we may want to re-examine the modification and see if we can't help the child learn in a more conventional manner.

These are questions we will discuss in future modules.

(PUT THE FOLLOWING TRANSPARENCY ON THE OVERHEAD:

Reasons for	Problems	Ways to Solve

RECORD THE PARTICIPANTS' RESPONSES.)

57. What do you think are some reasons why systematic inquiry should be used?

58. What are some problems you can foresee?

59. What are some possible solutions to these problems?

(THE MOST FREQUENTLY-MENTIONED PROBLEM IS THE TIME IT TAKES TO DO SYSTEMATIC INQUIRY. IF THE FOLLOWING ARE NOT MENTIONED BY THE PARTICIPANTS, THE FACILITATOR SHOULD MENTION THEM.

a. You only apply the process of systematic inquiry to those subtasks a child can't do. That may be only one or two per page.

b. You can develop a list of modifications for subtasks that occur frequently in your task analyses. For example, attending is a subtask that almost always appears in a task analysis. You could list several modifications on a 3 x 5 card and save that for future times you're applying systematic inquiries.

c. Share your systematic inquiries. Develop a central file where everyone can put the ones they did. Then, you could check there before doing one yourself.

d. It does become easier and quicker the more you do it.)

SYSTEMATIC INQUIRY

(Use in Systematic Inquiries Demonstration, Activity 4)

Word Attack
A.4
Form Q

NAME____________________ DATE_______________

Wisconsin Tests of Reading Skill Development © 1972—The Board of Regents of the University of Wisconsin System

Raw Score	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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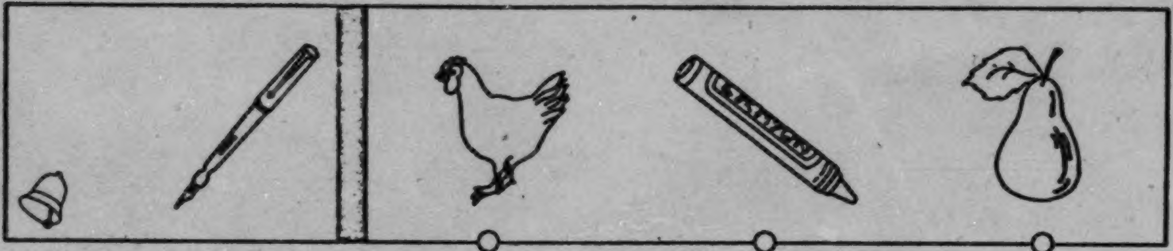
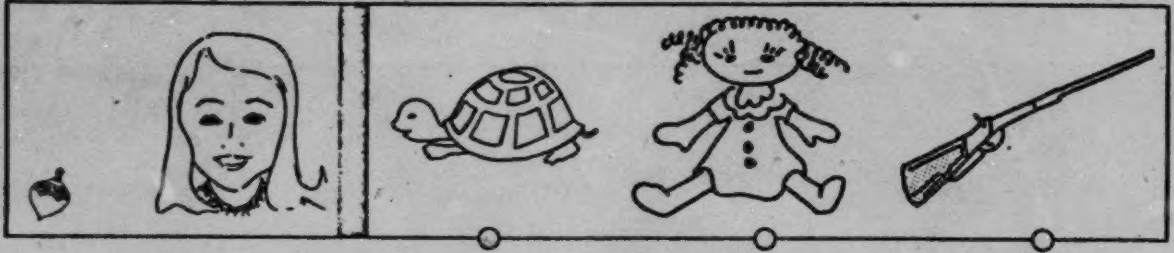
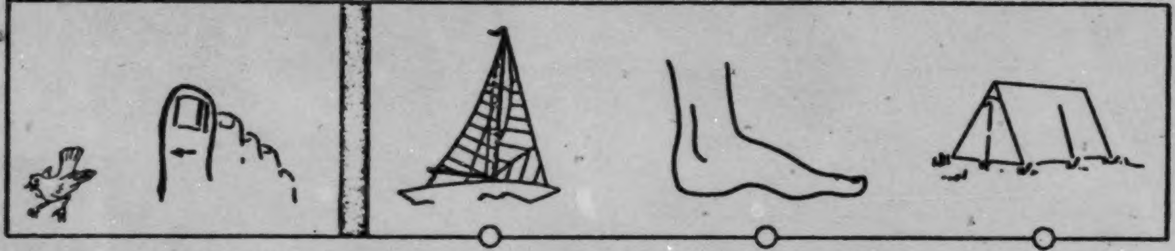
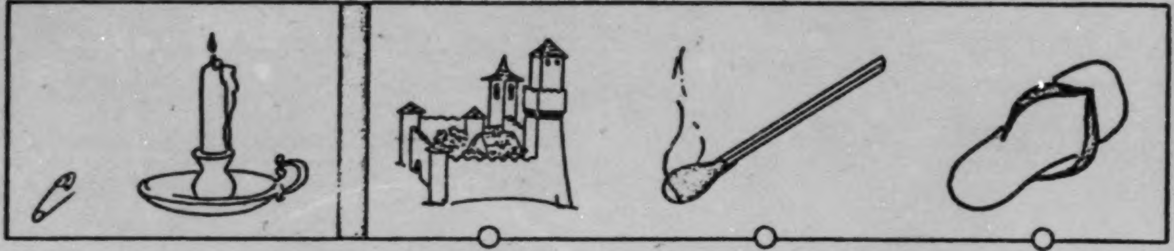
SAMPLE

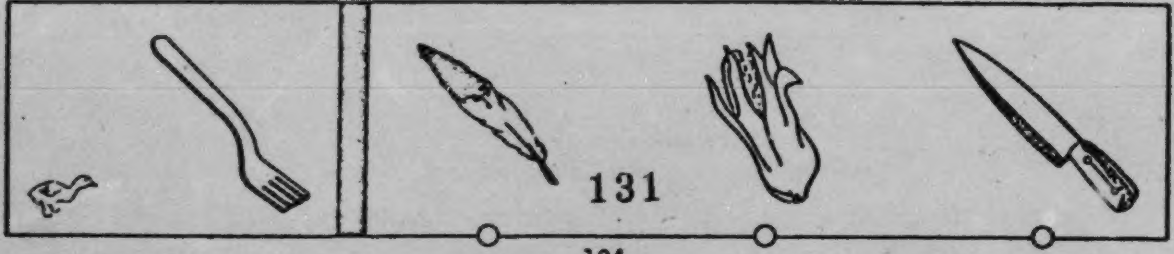
Test 7—Initial Consonants





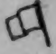
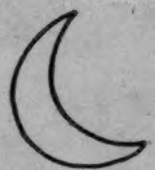
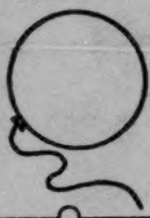
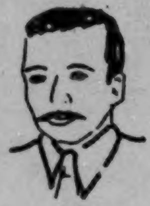
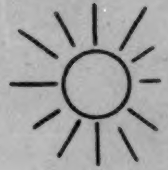






SAMPLE

TEST 7

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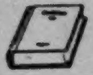
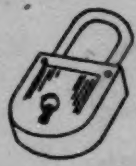
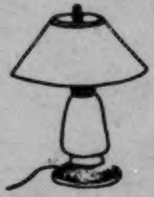
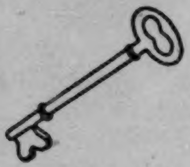
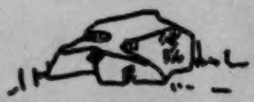

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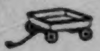
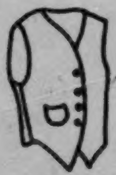
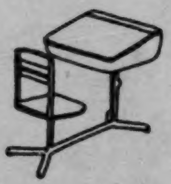
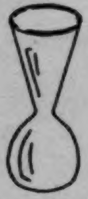
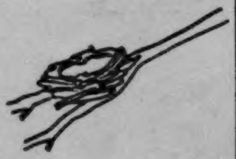

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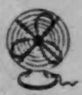
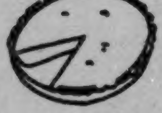
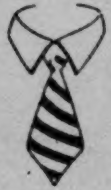
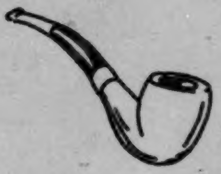
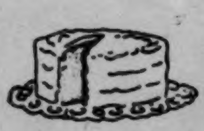

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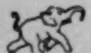
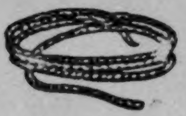
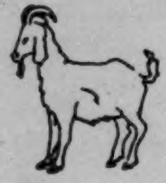
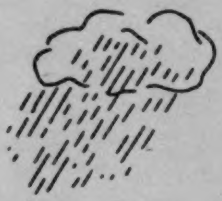
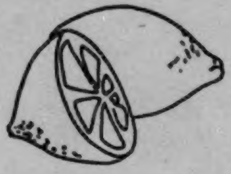

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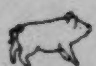
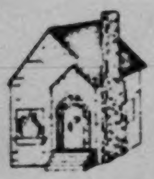
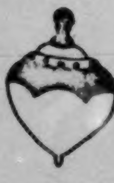
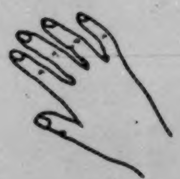
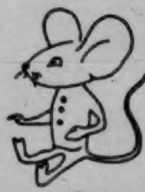

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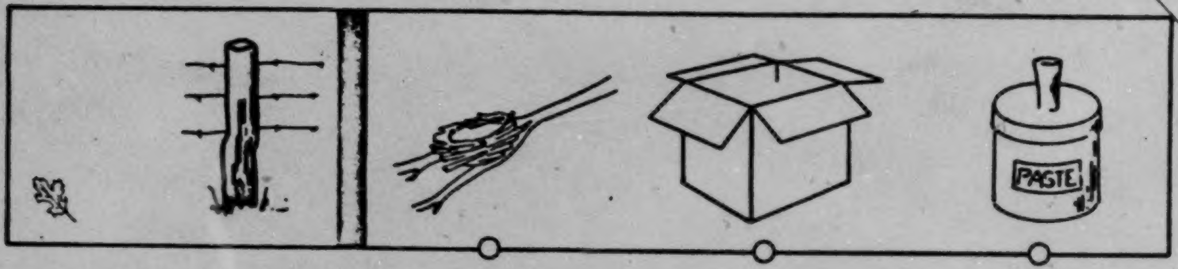
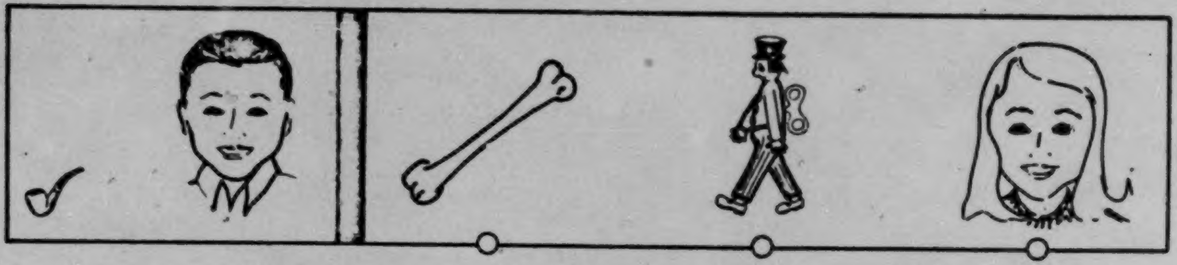
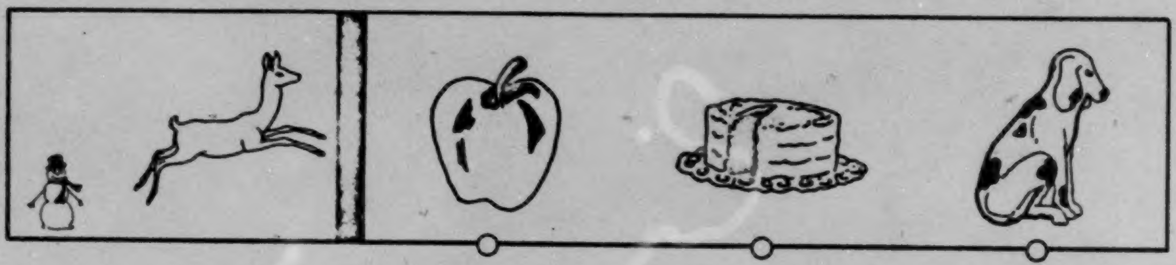
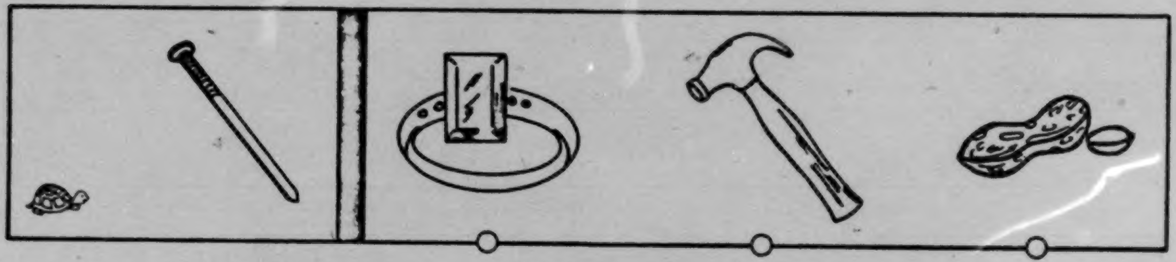
SAMPLE

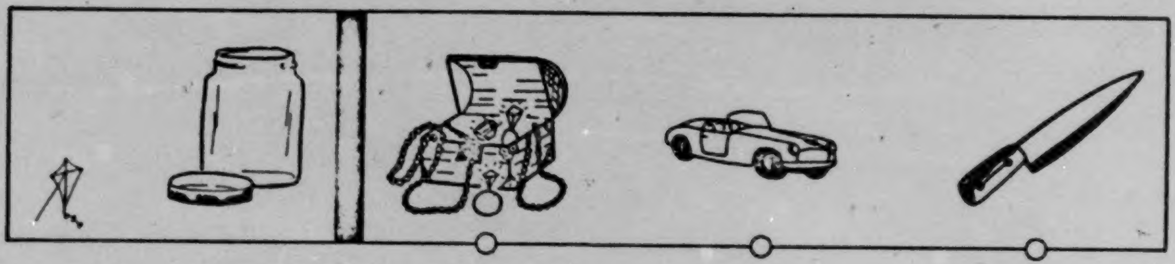
TEST 7











(Use in Systematic
Inquiry Demonstration, Activity 4)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: ______________________

Systematic Inquiry

(Use in Systematic Inquiries
Demonstration , Activity 4)

Task Analysis, Checks and Systematic Inquiries for Test 7, Level A, of the Wisconsin Tests of Reading Skill Development.

Alternative Response: Have the child orally give the answers.

Task Analysis	Check	Systematic Inquiries
1. Attends to teacher and/or task	Observe the child to see if he has eye contact with the page for ____ minutes.	a. Use cue words. b. Use clicker. c. Decrease the amount of work you give him. d. Set up a system where you reward him each time he attends.
2. Demonstrates an understanding of the language of directions	Show the child two identical pictures and ask if they are the "same." Ask him to show you the letter "starts" a word, etc.	a. Change words "same" to "alike," etc. b. Change the modality through which you present the directions.
3. Locates the correct row	Ask the child to show you where he's going to start working.	a. Model the task. b. Cut up the page. c. Draw arrows under the row showing the direction he is to go.
4. Identifies the picture	Ask the child to name the pictures. Or, you say the picture names and ask the child to point to them.	a. Use the same pictures but make them simpler. b. Use the same pictures but make them larger. c. Change the pictures to ones he can identify.
5. Repeats words	Ask him to do the task.	a. Model the task and have the child do it after you.
6. Isolates beginning sounds	Say a word slowly and ask the child to tell you what sound the word began with. Put a written word in front of the child. Say the word and ask him to tell you what sound the word began with. Don't let him only point to the letter or write it because you still won't know if he could isolate the sound orally.	a. Model for the child by saying the word slowly and emphasizing either the beginning or ending sound. Then repeat the isolated sound by itself. Next, ask him to say the word slowly and emphasize the beginning or ending sound. Then ask him to say only the emphasized sound in isolation.

Task Analysis	Check	Systematic Inquiry
		b. Put a picture or the written name of the object in front of the child to help him remember the beginning sound. c. Put a concrete object in front of the child to help him remember the beginning sound.
7. Matches initial sound of the stimulus word to initial sounds of other words (sound/symbol correspondence)	Say, "I'm going to say some words that begin alike. You say them after I do -- ball, baby." Give the child time to repeat them. Then say, "now I'm going to read more words. After I do, then tell me if the words begin alike or not -- bell, bird (pause and let the child respond)--dog, stop," etc. If the child fails the above, repeat the same procedure using two words plus a picture of each word. If he can do the first check, repeat it using three and four words. If he can't do it, use three and four words with pictures.	a. Present the task the same way but decrease the number of words (pictures) he must compare the stimulus word (picture) to. b. Say the correct beginning sound (the sound of the stimulus word) and ask the child to point to the picture that has the same sound. c. Remove visual cues and present the task auditorially and have the child respond auditorially.
8. Selects the correct response by marking an "X"	Ask the child to make an "X" on a response.	a. Have the child draw a line under, or circle, the correct response. b. Ask him to point to the correct response. c. Decrease the number of responses the child selects the correct one from.

Name of Subtest: Wisconsin Tests of Reading Skill Development, Level A, Test 7, Initial Consonants

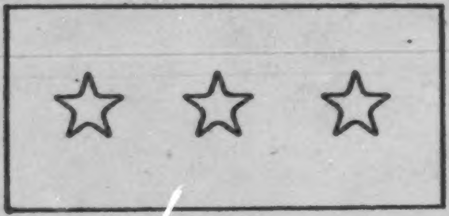
SYSTEMATIC INQUIRY

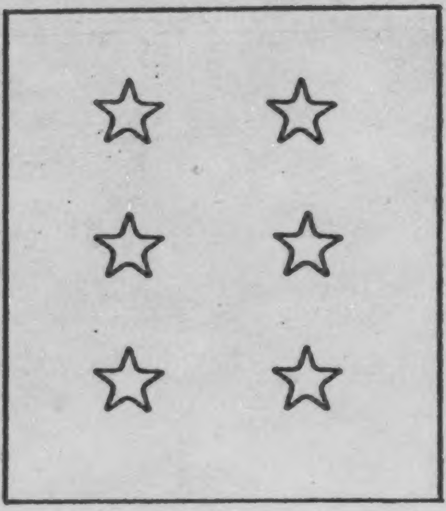
(Use in Systematic Inquiries
Demonstration, Activity 4)

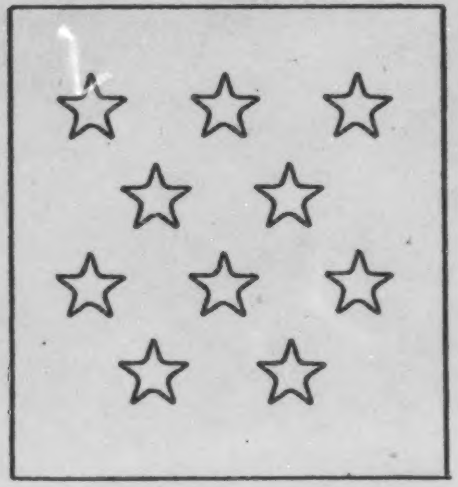
Basic Math Inventory

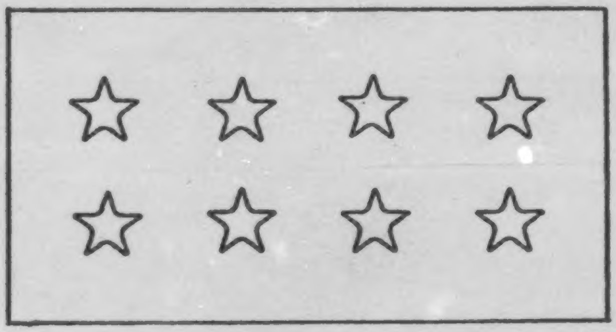
VII. A. COUNTING OBJECTS

"Tell how many stars there are in each box."









(Use in Systematic
Inquiry Demonstration, Activity 4)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: ______________________________

Systematic Inquiry

(Use in Systematic
Inquiries Demonstration
Activity 4)

Task Analysis, Checks and Systematic Inquiries for Test VII A of the Basic Math Inventory

Alternative Response: Ask the child to write the answers.

Task Analysis	Check	Systematic Inquiries
1. Attends to teacher/ task	Observe the child to see if he has eye contact with the page for ____ minutes.	a. Use cue words, b. Use clicker. c. Decrease the amount of work you give him. d. Set up a system where you reward him each time he attends.
2. Demonstrates an understanding of the language of directions.	Ask the child to point to the box and star. Ask him to show you "how many" fingers he has, etc.	a. Change the words used in the directions. b. Change the modality through which you present the directions. c. Teach him the concept "how many."
3. Locates items	Ask him to point to each object.	a. Model task. b. Cut up the page. c. Draw arrows, or other pictures, near each item. Start the test by asking the child to put his finger on the arrow, or picture, and do the item next to it.
4. Counts by ones to ten.	Ask the child to count aloud pointing at each object.	a. Make the format larger. b. Give him concrete objects to use. c. Expose objects one at a time.
5. Demonstrates one to one correspondence	Give the child a paper with two sets of objects on it. Ask him to draw a line from the object in one set that matches the object in the other set.	a. Use concrete objects.
6. Says correct number	Ask the child to rote count from one to ten to make sure he can say all the numbers.	a. Write the numbers one to ten on a card. Ask the child to point to the correct answer.

Name of Subtest: Basic Math Inventory,
Test VII A, Counting Objects

Systematic Inquiry

Activity Sheet 4a

1. Find Task Analysis Worksheets 4, 5, 6 and 8 and Recording Sheets 4a, 5a, 6a and 8a.
2. Select a method for checking each subtask and write it in the Check column.
3. Select at least two systematic inquiries for each subtask and write them in the Systematic Inquiries column. Be sure they are modifications of the subtask and not checks.
4. Compare your inquiries with those chosen by previous participants.
5. Select your inquiries, those chosen by previous participants, or a combination of both, as your final set of inquiries.

Systematic Inquiry

Activity Sheet 4b

1. Find the Task Analysis of the two subtests you did in Activity 2d plus 9a and 10a.
2. Select a method for checking each subtask and write it in the Check column.
3. Select at least two systematic inquiries for each subtask and write them in the Systematic Inquiries column. Be sure they are modifications of the subtask and not checks.
4. Compare your inquiries with those chosen by previous participants.
5. Select your inquiries, those chosen by previous participants, or a combination of both, as your final set of inquiries.
6. Return to the large group for discussion.

The following are possible Checks and Systematic Inquiries for Worksheets 4, 5, 6 & 8 that are described in the task analysis module. Examples like these will need to be prepared for the worksheets the participants are to use in Activity 4a.

Systematic Inquiry

Task Analysis, Checks and
Systematic Inquiries by
Previous Participants of
Worksheet 4.
(Use in Activity 4a)

Alternative Response: Ask the child to give the answers orally.

Task Analysis	Check	Systematic Inquiries
1. Attends to teacher.	Observe the child to see if he has eye contact with the workbook page for ____ minutes.	a. Use cue words b. Use a clicker
2. Demonstrates an understanding of the key words in the directions.	Ask him to "choose" a toy.	a. Change the key words: "Choose" to "select" or "pick". b. Present the directions in written form or in words and pictures.
3. Demonstrates an understanding of left-right sequencing.	Ask him to point to where he is to begin reading and show you the direction he is to go.	a. Put a star where he is supposed to start reading. b. Put an arrow showing the direction he is to go.
4. Demonstrates an understanding of the concept of a sentence.	Ask him to tell you what a sentence is.	a. Teach him that a sentence is a unit of thought.
5. Matches letter sounds to their correct symbols.	Point to a symbol and ask him to tell you what sound it makes.	a. Put a cue picture above the letters whose sound he doesn't know (apple above a). b. Teach him sound-symbol correspondence.
6. Sequences sounds.	Ask him to say the sounds in the word in their correct order.	a. Put numbers under the words to show which sound he is to say first, second, etc. b. Draw an arrow showing what comes first, etc.
7. Blends sounds	Say the individual sounds in the word and ask the child to tell you what the word is.	a. Teach him to blend sounds.

Task Analysis	Check	Systematic Inquiries
8. Identifies pictures.	Ask him to name each picture. Teacher describes picture and asks child to point to the one she's talking about.	a.Use the same pictures but make them simpler. b.Use the same pictures but make them larger. c.Change the pictures to ones he can identify.
9. Matches sentence to the picture.	Ask him to draw a line between the sentence and the picture that goes with it.	a.Draw a line between the picture and sentence. b.Cut the page up and give him one picture and sentence at a time.
10. Selects a word by drawing a circle around it.	Ask him to draw a circle.	a.Have him draw a line under, or "x" the correct response. b.Ask him to point to the correct response.

Systematic Inquiry

Task Analysis, Checks, Systematic
Inquiries of Worksheet 5 by
Previous Participants
(Use in Activity 4a)

Alternative Response: Ask the child to give an oral response.

Task Analysis	Check	Systematic Inquiries
1. Attends to task.	Observe the child to see if he has eye contact with the workbook page for ____ minutes.	a. Use cue words b. Use a clicker c. Cut the page in two. Ask the child to do the first part of the page, then take a break, and do the last part.
2. Demonstrates an understanding of the key words in the directions.	Ask him to explain what the words mean or show you what they mean.	a. Change the key words he doesn't know to simpler version he does know.
3. Demonstrates an understanding of left-right sequencing.	Ask him to point to where he is to begin reading and show you the direction he is to go.	a. Put a star where he is supposed to start reading. b. Put an arrow showing the direction he is to go.
4. Demonstrates an understanding of the concept of a sentence.	Ask him to tell you what a sentence is.	a. Teach him that a sentence is a unit of thought.
5. Matches letter sounds to their correct symbols.	Point to a symbol and ask him to tell you what sound it makes.	a. Put a cue picture above the letters whose sound he doesn't know (apple above ă). b. Teach him sound-symbol correspondence.
6. Sequences sounds.	Ask him to say the sounds in the word in their correct order.	a. Put numbers under the words to show which sound he is to say first, second, etc. b. Draw an arrow showing what comes first, etc.
7. Blends sounds.	Say the individual sounds in the word and ask the child to tell you what the word is.	a. Teach him to blend sounds.

	Task Analysis	Check	Systematic Inquiries
8.	Matches sentence to possible responses.	Ask the child to point to the responses that are possible answers.	a. Change the format of the page so the responses are placed beside, or beneath, each sentence.
9.	Has enough background information to answer questions correctly.	Ask the child if he has read the story. Ask him to tell you what the story was about.	a. Have him re-read the story. b. Change the story format so it is more comprehensible to him.
10.	Selects correct response by finding the letter that indicates it.	Ask the child to point to the correct response.	a. Reduce the number of response choices.
11.	Finds correct line on which to put the letter.	Ask him to point to the correct line.	a. Put numbers next to the line so that he can match the sentence number with the line number. b. Leave more space between the sentences so it is more apparent which line goes with which sentence.
12.	Writes the letter.	Ask the child to make the letters.	a. Replace letters with numbers. b. Ask him to draw a line from the response to the sentence.

Systematic Inquiry

Task Analysis, Checks and
Systematic Inquiries by
Previous Participants of
Worksheet 6.
(Use in Activity 4a)

Alternative Response: Ask the child to give the answers orally.

Task Analysis	Check	Systematic Inquiry
1. Attends to task.	Observe child to see if he has eye contact with page for ___ minutes.	a. Use cue words. b. Use clicker.
2. Can read directions.	Ask child to read directions aloud.	a. Teach words used in directions. b. Read directions to child.
3. Demonstrates understanding of directions by following them correctly.	Ask child to explain what the words in the directions mean.	a. Change individual words child doesn't know to words he does know. b. Make up another sentence to convey directions.
4. Can demonstrate an understanding of left-to-right sequence of number line.	Ask child to move his finger along number line in appropriate direction. Ask child to supply numbers for a blank number line.	a. Show child that numbers progress upward from left to right. b. Put an arrow under the number line showing the child the progression of the numbers.
5. Can demonstrate an understanding of quantity-symbol correspondence for numbers used.	Ask child to count out groups of objects (toothpicks, paper clips) up to 18.	a. Demonstrate quantity-symbol correspondence on number line.
6. Demonstrate understanding of +, -, =.	Ask child to explain what each symbol means.	a. Teach meaning of each symbol.
7. Demonstrates an understanding of process of finding the sum and missing addend.	Ask child to complete one problem of each kind.	a. Ask child to perform one of each of the problems using the number line as an aid. b. Ask child to perform one of each of the problems with concrete objects.

Task Analysis	Check	Systematic Inquiry
8. Can "partial count."	Ask the child to count orally from 4 to 10, for example.	a. Teach the child to partia count. b. Let him use concrete objects.
9. Can draw a line to show counting.	Ask the child to draw a line.	a. Ask the child to point to the numbers on the number line. b. Eliminate this part of the worksheet.
10. Can write numbers in a box.	Ask child to write a number in a box.	a. Ask the child to point to correct answer for a problem on the number line. b. Ask child to say correct answer to problem. c. Ask child to draw a box around correct answer on number line.
11. Can count to 18 by ones.	Ask the child to count orally to 18.	a. Give him a number line to use. b. Give him concrete objects to use.
12. Can match numbers in problem with numbers on line.	Ask child to match numbers in problem with numbers on number line by pointing. Ask child to supply numbers in problems on a blank number line.	a. Demonstrate matching numbers on line with numbers in problem. b. Change the format so the problem is under the number line rather than beside it.
13. Can count by 2's.	Ask child to orally count by twos. Ask him to group concrete objects by twos.	a. Teach counting by twos. b. Let him use concrete objects.
14. Can make circles around sets of twos.	Ask child to circle a group of 2.	a. Ask child to point to a group of two. b. Ask child to draw a group of two. c. Ask child to color a group of two. d. Ask child to make an X on a group of two.

Systematic Inquiry

Task Analysis, Checks and
Sytematic Inquiries by
Previous Participants of
Worksheet 8.
(Use in Activity 4a)

Alternative Response: Ask the child to tell you the answers orally.

Task Analysis	Check	Systematic Inquiry
1. Can read directions.	Ask child to read directions aloud.	a. Tell child unknown words in directions. b. Read directions to child.
2. Can follow directions.	Ask child to explain what he will do to complete exercies.	a. Demonstrate by completing 1 item for child.
3. Can demonstrate concept of first and last.	Ask child to point to first of a word. Ask child to point to last of a word.	a. Change the words to "beginning" and "ending". b. Put a green star by the first of every word and a red one by the last of every word.
4. Can identify the pictures of "cow, cook, kite, hat."	Ask the child to name the pictures. You name the pictures and ask the child to point to them.	a. Make the pictures more clear. b. Make them larger. c. Change the pictures to some he does know.
5. Can match appropriate sound to the symbol of the letter "c,k,h."	Point to each letter and ask the child to tell you its sound.	a. Put a cue picture above the letters whose sound he doesn't know (apple above ă.) b. Teach him sound-symbol correspondence.
6. Can isolate initial and final sounds.	Say a word to a child very slowly and ask him to tell you what sound the word began or ended with.	a. Model for the child by saying the word slowly and emphasizing either the beginning or ending sound. Then repeat the isolated sound by itself. Next, ask him to say the word slowly and emphasize the beginning or ending sound. Then ask him to say only the emphasized sound in isolation.

Task Analysis	Check	Systematic Inquiry
		b. Put a picture or the written name of the object in front of the child to help him remember the beginning or ending sound.
7. Can spell "cook."	Ask the child to orally spell it or to write it.	a. Teach him what the first and last letters of "cook" are. b. Change this item.
8. Can draw a circle around the word.	Ask the child to draw a circle around a word.	a. Ask him to make an "X" on the word. b. Ask him to point to the correct word.

The following are Checks and Systematic Inquiries of two subtests similar to those described in the task analysis module. Examples like these will need to be prepared for the subtests the participants are to use in Activity 4b.

Systematic Inquiry

Task Analysis, Checks, and Systematic Inquiries of Worksheet 9 by Previous Participants.
(Use in Activity 4b)

Alternative Response: Ask the child to write the letters as you dictate.

Task Analysis	Check	Systematic Inquiries
Part A:		
1. Attends to teacher/ task.	Observe the child to see if he has eye contact with the page for ____ minutes.	a. Use cue words. b. Use clicker. c. Decrease the amount of work you give him. d. Set up a system where you reward him each time he attends.
2. Demonstrates an understanding of the key words in the directions.	Check him out on the key words.	a. Change the key words.
3. Matches visual symbol of letter with previously learned letter name and says correct name.	Ask him to say all the letter names he knows. Present him with numbers, letters and shapes. Ask him to point to the letters.	a. Put a key symbol above each letter that will help him remember the letter name (golf tee by the letter "t," etc.) b. Separate the letters so there is more "white space" around them and the format isn't as visually confusing. c. Present one letter at a time on a card.
Part B:		
1. Attends to teacher/ task.	Observe the child to see if he has eye contact with the page for ____ minutes.	a. Use cue words. b. Use a clicker.
2. Demonstrates an understanding of the key words in the directions.	Ask him to demonstrate what "point" means.	a. Change "point" to "show me."
3. Locates row.	Ask him to show you what row he's going to start with first.	a. Put a symbol by each row so you can say, "Put your finger on the ____." to help him know which row you want him to be on. b. Cut the page up and present one row at a time.

Name of Subtest: Letter Names

Task Analysis	Check	Systematic Inquiries
4. Matches letter name to previously learned letter symbol by pointing to the correct response.	Make sure the child can point.	a. Present one row of letters at a time. b. Space the letters so there is more "white space" among them. c. Decrease the number of letters he is to choose from.

Name of Subtest: Letter Names

Systematic Inquiry

Task Analysis, Checks, and
Systematic Inquiries of worksheet
10 by Previous Participants.
(Use in Activity 4b)

Alternative Response: Ask the child to tell you the answer orally.

Task Analysis	Check	Systematic Inquiries
Part A:		
1. Attends to teacher/task.	Observe the child to see if he has eye contact with the page for ____ minutes.	a. Use cue words. b. Use a clicker. c. Cut the page in half and present one half at a time.
2. Demonstrates an understanding of the key words in the directions.	Check out the child's understanding of "letter," "beginning sound," "fill in," "circle" and "in front of."	a. Change the key words to simpler ones. b. Present the directions in written or pictorial form. Ask the child to look at them as you tell him orally what to do.
3. Locates them.	Ask the child to point to where he is going to start.	a. Cut up the page and present one item at a time. b. Put a symbol by each item so you can say "Put your finger on the _____" to help him know which item you want him to be on.
4. Repeats word.	Ask him to do the task.	a. Model the task and have the child do it after you.
5. Isolates beginning sound.	Say a word slowly and ask the child to tell you what sound the word began with. Put a written word in front of the child. Say the word and ask him to tell you what sound the word began with. Don't let him only point to the letter or write it because you still won't know if he could isolate the sound orally.	a. Model for the child by saying the word slowly and emphasizing either the beginning or ending sound. Then repeat the isolated sound by itself. Next, ask him to say the word slowly and emphasize the beginning or ending sound. Then ask him to say only the emphasized sound in isolation. b. Put a picture or the written name of the object in front of the child to help him remember the beginning sound.

Name of Subtest: Letter Sounds

Task Analysis	Check	Systematic Inquiries
6. Matches initial sound of stimulus word to sounds of other letters.	Ask him to tell you the sounds of the other letters. Then tell him that you will say two letter sounds and he is to tell you if they are the same or different. If he is successful on several trials, give him two short words and ask him if they start with the same or different sounds.	a. Present the task the same way but decrease the amount of letters he must compare the word to. b. Present the word and ask the child to point to a picture that starts with the same initial sound. c. Use real words instead of "made-up" ones.
7. Selects correct answer by filling in the circle.	Ask the child to fill in the circle.	a. Ask him to make any kind of mark he wants to indicate the answer. b. Separate the letters so there is more "white space" between them. c. Make the letters bigger.
Part B:		
1. Attends to teacher/ task.	Observe the child to see if he has eye contact with the page for _____ minutes.	a. Use cue words. b. Use a clicker.
2. Demonstrates an understanding of the key words in the directions.	Ask him to demonstrate to you the meaning of the key words.	a. Change the key words he doesn't know to simpler ones. b. Present the directions in written or pictorial form. Ask the child to look at the card while you read the directions to him.
3. Locates item.	Ask the child to point to where he is going to start.	a. Cut up the page and present one item at a time. b. Put a symbol by each item so you can say, "Put your finger on the ______." to help him know which item you want him to be on.
4. Repeats words.	Ask him to do the task.	a. Model the task and have the child to it after you.
5. Isolates initial sounds of both words.	Say a word slowly and ask the child to tell you what sound the word began with. Put a written word in front of the child. Say the word and ask him to tell you what sound the word began with. Don't	a. Model for the child by saying the word slowly and emphasizing either the beginning or ending sound. Then repeat the isolated sound by itself. Next, ask him to say the word slowly and emphasize the

Name of Subtest: Letter Sounds

Task Analysis	Check	Systematic Inquiries
	let him only point to the letter or write it because you still won't know if he could isolate the sound orally.	beginning or ending sound. Then ask him to say only the emphasized sound in isolation. b. Put a picture or the written name of the object in front of the child to help him remember the beginning sound.
6. Matches initial sounds of both words.	Tell him that you will say two letter sounds. He is to tell you if they are the same or different. If he can do this correctly on several trials, give him two short words and ask him if their initial sounds are the same or different.	a. Use real words instead of "made-up" ones. b. If you're using real words, give him pictures representing each word.
7. Reads "yes" and "no".	Ask him to read the words.	a. Change the words to T & F, + & - or some other symbols Teach the child which one to point to if the words begin alike or differently.
8. Selects correct response by filling in the circle.	Ask the child to fill in the circle.	a. Tell the child to make any written response he wants to indicate the answer. b. Make the format larger.

Name of Subtest: Letter Sounds

Psychoeducational Evaluation of the Preschool Child

A Manual Utilizing the Haeussermann Approach

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Introduction

This manual is designed to be used as a guide in evaluating the educational potential of preschool children by teachers, psychologists, nurses, and others who work with young children in or around the educational situation. It is a supplement to the text by Else Haeussermann *(Developmental Potential of Preschool Children.* New York, Grune & Stratton, Inc., 1958), and no attempt has been made to duplicate the invaluable material found in the original text. The intention here has been to simplify the material for expeditious administration, and to expand the material so it would apply equally well to children without physical handicaps. It will be helpful to consult the Haeussermann text for enriched appreciation of the child's responses. When evaluating handicapped children—those with marked physical, motor, intellectual or emotional deviations—the use of the text is essential. To facilitate complementary use of the Haeussermann text, items in this manual show references to it; where no such cross-reference is indicated, the item did not appear in the original text, and it is now presented for the first time.

It is the intent of this manual to provide to child development workers, especially teachers of preschool children, a readily available easily mastered systematic method for determining the psychoeducational standing of each child in a preschool program. With this kind of psychoeducational assessment at hand, the teacher-evaluator can set her immediate training goals and develop the appropriate curriculum for the individual child. Furthermore, by design, some main test items are followed by a graded series of teaching probes to provide for a fine adjustment of the teaching level. In fact, the teacher is teaching the child with a classroom sample of educational material as she evaluates him. By assessing his response to these teaching probes she identifies his current educational competence and the style in which to approach him most effectively.

Nature and Purpose of an Educational Evaluation

The educational evaluation is a structured testing and educational procedure designed to assess the child's present functions and level of achievement in a variety of areas. It provides an opportunity to watch the child learn under standardized conditions and to explore his capacity to master new learning. It seeks to discover the obstacles which may be present in the form of specific deficits. Subtle impairments which are not easily discernible may warrant further investigation by a specialist. The evaluation provides a curriculum guide for the teacher; the educational profile of the

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child is a basis for planning the educational program, based on the systematic and detailed information revealed about the child. By providing an individualized diagnostic teaching program early in the child's educational career, it may be possible to avoid establishing or compounding habits which handicap his learning. The child may be trained to circumvent specific disabilities and, in some cases, to improve his functioning in areas in which he has deficits.

This is an educational evaluation, not a standardized test. It supplements the information gained by means of standardized tests. The focus here is on careful observation and response, rather than score; functional analysis and achievement capacity, rather than failure. Unlike most standardized tests, the exercises in this manual probe the child's competence in the area being investigated. The emphasis is on a simultaneous, systematic observation of the child's total behavior while responding, without limiting attention to the correctness or incorrectness of responses. The interest here is in exploring how the child has arrived at a solution and whether he has had to detour impaired areas of functioning in order to respond successfully, and not in determining how his performance score compares to that of other children.

The educational evaluation provides no norms. Standardized tests are available when it is necessary, for some special reason, to measure the child against the performance of the majority of children his age. In the educational situation, norms are easily misinterpreted and may be put to ill use. In many cases, norms become a guide to labeling children, classifying them for "homogeneous grouping," and thus limiting the instruction available to them. This evaluation is to be used solely to provide a basis for individualized diagnostic and prescriptive teaching.

The educator or observer, in addition to noting whether the child responds appropriately (or correctly) to each task set before him, simultaneously observes the way in which the child organizes his resources to meet the requirements of the situation. During the course of the interview the evaluator accumulates a picture of the child's style of behavior; she will observe general behaviors and skills which serve either to facilitate or impede learning. The child may be cooperative, agreeable, persistent, with a long attention span; he may be patient, responsive, confident; all of these general behaviors tend to facilitate learning. He may be restless, inattentive, impulsive, easily distracted; these general behaviors tend to handicap learning. The pattern of these behaviors may be observed in the child's approach to every situation.

It must be kept in mind that an educational evaluation, or even a standardized test, reveals little that an observant and experienced teacher does not eventually find out for herself in daily contact with the child. The structured evaluation makes it possible to assess the child more quickly and thoroughly in order to expedite educational planning, or to probe those areas which the teacher, even after extended classroom observation, still finds puzzling.

Area of Functioning and Test Items

Specific learning skills in five areas of functioning are investigated by the 41 test Items. For effective learning, the child must acquire skills in the areas of (1) physical functioning and sensory status, (2) perceptual functioning, (3) competence in learning for short-term retention, (4) language competence, and (5) cognitive functioning. The teacher may investigate the child's competence in each of these areas through the test Items which tap specific skills.

Within each functional area, designated as a *Section*, the Main Items are generally arranged in a sequence of increasing intellectual demand, culminating in a preschool level of mastery. Thus, it is expected that the child entering school will be able to deal successfully with the most difficult Items in this manual. The introduction to each section describes the area and skills being investigated in that section.

They are presented so that the examiner may know what to look for, and so that he may anticipate how their presence or absence will affect the child's performance in and out of school. The performance on all Items forms the basis for an individualized diagnosis and teaching plan for the child in the preschool program. Should puzzling questions about appropriate class or school placement persist, it may be necessary to consult a psychiatrist, neurologist, ophthalmologist, audiologist, or other specialist for further evaluation. Pending the outcome of such consultation, it is reassuring that the conscientious teacher, by using this evaluation, may have a basis for a teaching plan which can, in the interim, improve the level of the child's functioning and alter his learning skills. It is not necessary to defer teaching the child pending the outcome of the consultation; individualized diagnostic teaching is an essential part of the child's treatment, and the teacher's continued observations are invaluable in assisting the consultant in making his diagnosis.

It is possible, with the systematic sampling of skills provided by the range of Items, to sample intact skills, and also to explore the nature and extent of impairment when it is present.

Consistencies and inconsistencies across the range of tasks should be clear from the profile of the child's functioning. For example, the child may handle color only at the concrete level, while he can deal with shapes at the verbal level. Individual differences are thus clearly revealed with this instrument.

Main Items

The Main Items in each section are in ascending order of difficulty, culminating in mastery of that functional area at the level appropriate for entrance to first grade. The sequence of Items is designed to parallel growth demands made on the child during his preschool years, in those skills which he will need at school. Within each section it is recommended that the Items be presented to older children in descending order and that the youngest children be given the Items in ascending order. This serial ordering also enables the evaluator to use the successive Items as measures of the child's progress after a period of training when he is reevaluated by these tests. The examiner has the option of exploring all areas of the child's functioning (administering all Main Items in all sections), or investigating only those areas that are puzzling to him (administering Main Items in selected sections). In either case, the educational diagnosis deriving from the child's performance should at the same time serve as an individualized curriculum guide or teaching plan for that child.

Titles of the Items clearly refer to the skills tapped by each item. An attempt has been made to isolate functions completely. For example, Main Item 2 investigates visual acuity, requiring the child to select from the table in front of him a toy which matches a picture ten feet away, in order to determine whether the child sees adequately. It is clear that in order to select the appropriate toy, the child must not only see the picture, but he must also understand the verbal instructions, and he must be capable of accepting a picture as a symbolic representation of a concrete toy. He must also be attentive and cooperative. If the child does not select the appropriate toy, the sensitivity and skill of the examiner will be required to determine whether indeed the child has a visual problem, or whether some other factor intrudes. The test is at best only a neutral tool; the evaluator or examiner must use it to best advantage.

As the child performs successfully on the first Main Item in the section being administered, the examiner then presents each of the succeeding Items in order. When the child is not able to meet the demands of the task to demonstrate the skill tapped by that Item, Probes are provided.

Probes

Probes, administered when the child has difficulty performing the Main Item, permit both lateral and downward modification of the requirements of the Main Item. The Probes investigate the amount and kind of assistance the child needs in order to perform, and they explore the effect of training on his learning the skill investigated. We are not satisfied to say, "The child does not know colors." The good teacher is cautious about saying the child knows "nothing." She analyzes his performance very carefully to discover his present level, which is rarely nothing.

For example, if the child cannot name colors, he may be asked to select blocks of different colors as the examiner names the colors. If he cannot do this, the task may be simplified by presenting a limited choice (only three instead of six) of widely disparate colors (for greater contrast). If he can do this, he may be presented with the six once more, to explore whether he benefited immediately from this very brief bit of training. If he could not select the three, the task may be further simplified by having him match the three blocks with three similarly colored blocks (thus eliminating the need for knowing color names). If this fails, the task may be made even more concrete and more meaningful for the child by providing colored doll's socks to be matched instead of the blocks. This description differs from the actual test Item (Main Item 7) in order to present a concrete portrayal of the rationale for the Probes. The teacher will, from the point at which the child performs successfully, train him by moving through the levels suggested by the Probes. In some cases, the Probes clearly indicate what approach or assistance the child needs in order to achieve. Modifications generally move from abstract to concrete demands; frequently the number of choices available to the child is reduced; often he is offered additional cues for learning, such as tactile and kinesthetic stimuli; and on occasion verbal requests are eliminated.

Who May Be Evaluated

This evaluation is intended to be used with any child who is functioning at a preschool level, and for whom an educational plan is being formulated, be it a preschool program or the possibility of admission to the first grade. It will be particularly helpful for use with children who are difficult to test with standard tests. Such children present a variety of problems: Some children have difficulty relating to the examiner. Some relate to the examiner, but have motor handicaps or speech difficulties. Some children, because of immaturity, retardation, or a deprived or foreign-speaking background, have difficulty in understanding the instructions and in formulating adequate responses. For specific instructions on how to evaluate children with these handicaps, for the fearful, shy child, or for the nonspeaking child, the Haeussermann text is replete with suggestions.

When to Administer the Evaluation

Time of administration will vary with the circumstances. The evaluation may be administered all in one session or it may be spread out over several meetings. If the child's teacher uses it, she may gain most of the information in the classroom during the course of normal instruction, and probe only the puzzling areas in an individual "structured" interview.

One note of caution is in order: An interview should be arranged for the time of day when the child is usually most alert; it is important to avoid scheduling the evaluation at the child's usual nap time.

Preparation for Testing

Thoughtful preparation of the room and the materials will facilitate smooth and rapid conduct of the interview. The child's developmental data and history should be available, either from interviews with the parent or from a clinical study. The examiner should see these records before seeing the child, even though the focus of the evaluation is on what the child does now. Not only will this help the evaluator to understand the child, but it will help prepare the evaluator for counseling the parent in specific areas of child management which are indicated by the evaluation. The educator and parent can then work together to plan for conjoint training of the child.

The test area, during the specially scheduled session, should be as free as possible of distractions. The table should be completely free of materials, except those being used at the moment in any test item. Materials to be used in testing should be readily accessible, and at arm's length, but out of the child's reach and in such a spot that he will not look at them or reach for them. In most cases, it will be easier to administer the items if the examiner sits at the table directly opposite the child. The child should not face a window directly, since that may be a source of distraction as well as glare. If the child has physical handicaps, has difficulty with balance in sitting, or is so active that he requires restrictions for testing, helpful suggestions will be found in the Haeussermann text (pp. 41-42). Some children are most at ease on the floor; if the examiner is sufficiently agile to be able to present the test items on the floor, this should be done.

Sample forms on which the examiner may record the evaluation and observations are found in Appendix I. It is important to use the manual and the recording form as unobtrusively as possible, in order to avoid distracting the child. After some experience with the items and materials, it will be possible for the examiner to record her observations directly after the interview, instead of doing so while the child is present. A + should be noted next to each item successfully performed, a — to indicate an inability to perform the test and a need to probe further. Additional observations of the child's behavior during testing should be noted in the column at the right for later study and analysis when the report is summarized. Space is also provided for noting suggested teaching plans that the evaluator feels would be successful for individualized instruction.

Beginning the Interview

Every moment of contact with the child is important. If this is the first time the examiner has met the child, the very first observations of the child's behavior are invaluable. The evaluator will observe whether the child is ready to accompany her alone or whether the mother must come along. If the child holds back, clings to the mother, or looks very worried, the examiner may casually invite the mother as well as the child into the room, indicating where the mother is to sit. The mother should be seated behind and to the side of the child. If the mother's presence can be dispensed with, the examiner may dismiss the mother quietly, telling her, *We will see you when we are finished.*

"A nonverbal but friendly management of the child for the first few minutes of the interview seems to be more reassuring for many children than verbal communication. It absolves the child from an obligation to speak, which is especially important if he is shy, immature or has poor speech. This kind of nonverbal management is very different from a 'silent treatment,' which would only serve to bewilder the child. Rather it is a smiling, friendly, surehanded concern with the child's comfort and should give a feeling of mutual preparation for a pleasant visit. It should help to make the child feel that he and the examiner will be able to get along with each other. If a child is quite verbal and if he is responsive in conversation, the examiner will of course respond in kind." [Haeussermann, E.: *Developmental Potential of Preschool Children*. New York: Grune & Stratton, Inc., 1958, p. 71.]

"If, after a few moments, a child who apparently was ready to remain without his mother changes his mind and decides that he wants her after all, the examiner casually complies without giving the impression that this is unusual or a big concession. If, however, a child expresses a wish to see his mother halfway through the interview, it is best either to let him go to 'tell his mother how well he is doing,' or perhaps go with him to give this reassuring information and then lead him casually but firmly back to the room." [Haeussermann, E.: *Developmental Potential of Preschool Children.* New York: Grune & Stratton, Inc., 1958, p. 72.]

Before the child is taken to the room, a warm-up toy should be placed on the table or the floor—a musical top, a large ball, a doll, a picture book. The toy gives the child time to adapt to the room, to the situation, and to leaving the parent; it gives the examiner an opportunity to make further observations.

If the warm-up toy is a ball, the examiner may observe the child's coordination when he plays with it—whether he prefers one hand or uses both; whether he throws, rolls, kicks, pushes, or bounces the ball; whether he plays alone or engages the examiner or his mother in the play; how resourceful he is in retrieving it; and how long he remains interested in his play.

If a spinning top, a doll, or a picture book is used, the observations may follow similar lines—handedness, coordination, attention span, verbal communication, social interaction. A more detailed discussion will be found on pages 75 to 78 of the Haeussermann text.

Administering the Test Items

Have the materials ready, in sequence and out of the child's view. It will help to keep the child interested if he does not have to sit at an empty table and wait idly before and between Items. Remove the materials from the table quickly after they have been used. The pace of administration must be adapted to the child; slow down or speed up the tempo to meet his needs and to elicit maximum cooperation, interest, and attention. Some children, otherwise inattentive, respond more readily when the examiner holds their arm lightly.

Observations During the Interview

Look for intact learning skills. Judge whether the child could have succeeded on the Item by accident; from his performance determine what kind of support he needs. If he failed to meet the demands of the Item or Probe, determine whether it was because of distractibility or inability to comprehend.

Look at his total behavior to determine the effectiveness of his learning style. Learning style is a complex of behaviors among which are the following:

- Ability to make decisions
- Flexibility
- Reflectiveness
- Checking out one's answers
- Control of impulsivity (of quick answers)
- Response to concrete elements of situation (in contrast to abstract, e.g. literal responses, gives examples)
- Ability to shift from one activity or thought to another (in contrast to rigidity)
- Ability to be oriented to the task at hand
- Knowledge of completion (and finishing at that point, instead of spoiling a completed product by continuing to work on it)
- Motivation
- Interest
- Ability to sustain interest without interruption (a combination of distractibility, attention span, persistence with the task, restlessness, hyperactivity)
- Satisfaction with success

Ability to accept assistance (in contrast to inability to do so when frustrated)

Spontaneous, organized approach to task and environment

Curiosity, exploration, questioning

Orderliness

Anxiety (manifested by hesitancy, erasures, excessive self-correction, inability to deal with task)

Sense of humor

Cooperation

Responsiveness

It is helpful to observe the child's level of competence in self-help functions while interviewing him or in the classroom. Thus it is possible to confirm by personal observation information given by the parent. The examiner may take the child to the lavatory at the end of the interview and observe his ability to toilet himself, to wash and dry his hands, to take a drink of water, to take a cookie, and to put on his jacket or coat when ready to leave. It is helpful to watch him walk up and down a short flight of stairs. Observe whether he places both feet on each tread, or alternates his steps; observe how he uses the rail.

After the Evaluation

It is the responsibility of the evaluation to ferret out the educational implications of the child's behavior for educational curriculum guidance, and also to communicate relevant findings to the child's parents, physician, or other personnel working with the child.

The effect of handicap on performance needs investigation in every case. Obstacles which the child demonstrates during the evaluation will give clues to obstacles he will present in an educational program. For example, the child who cannot adequately lower his eyes may not be able to button and unbutton his coat; he may not be able to read and write if the material is placed flat on the table, but will need the material placed at a slant. The child who cannot raise his eyes may not be able to see the blackboard. The child who holds the crayon in his palm (palmer grasp) rather than with his fingers (pincer grasp) will have difficulty buttoning and unbuttoning clothing, will not be able to tie shoelaces, will have poor control of a pencil or crayon, will show immaturity in his written work, will have difficulty turning a doorknob or a key, will have difficulty manipulating scissors, and may be clumsy when feeding himself.

Implications of the Evaluation

No age or grade norms are given. We feel strongly committed to the position that classification of a young child is often a deterrent to optimal development. Since the purpose of the manual is to assist the teacher who wants to promote each child's personal growth to maximal capacity, the authors have provided a systematic method for looking at the *way* a child is *functioning*, leaving the assignment of a scale score to those professionals who sometimes need to make such a judgment—the pediatrician and the psychologist. In many instances it is important for such professionals to judge the age-appropriateness of a child's behavior; it is the teacher's crucial and irreplaceable role to change the behavior of the child.

In spite of the large body of data correlating child behavior with social class and ethnic background, we feel it is more productive to look at the child's individual style and scope of responsiveness to guided demands than it is to regard him as a representative of a particular social class or ethnic group. Our attitude is an eternally optimistic one—a child can learn to think and reason and make choices; his background, be it deprived or favored, is of historical import only.

Although no age or grade norms are given, a developmental framework is suggested in several ways. First, the range of the 41 Items corresponds to psychoeducational expectations for children from three years to six years. These tests are not appropriate for the child below three years of age nor for the normal child above the age of six years. Secondly, the five main sections are presented in a broadly developmental sequence, roughly parallel to stages of psychoeducational growth.

Although classificatory labels for the variety of pathological conditions related to maldevelopment are not offered, each section indicates specific nonaccomplishments that are distress signals requiring appropriate professional consultation. Wherever possible, specific suggestions for curriculum design are offered. However, it is part of the philosophy of this approach to train the evaluator to look at and listen to the child for her best cues for program development, and to trust herself to try whatever she feels is suitable.

After ascertaining the child's pattern of functioning, the evaluator can better devise and locate the educational strategies that will prove most effective in teaching him. Much of the teaching plan and many of the strategies will be suggested very clearly by the Probes and the nature of the child's failures. The ingenious teacher will create many techniques that are effective for each child with his particular profile of skills and deficits.

◉ Main Item 18
DELAYED RECOGNITION OF LARGE SOLID FORMS
(Haeussermann, item 11, p. 146.)

MATERIALS:

Two sets of cards, with solid symbols of a circle, a square, and a triangle (supplied, see Main Item 8, Appendix III); cardboard shield.

PROCEDURE:

- Place one set of cards on the table. Permit time for leisurely inspection, making certain that the child looks at each card.
- Say, *Now we will play a new game. We will play hide and seek.* Shield the displayed cards from view with the cardboard. Hold up the reserved card with the circle, and say slowly, *Look at this one. Remember what it looks like.*
- Expose it for ten seconds counted from the moment the child focuses his eyes upon it. Remove the sample card, and remove the cardboard so that the original three cards are visible. Say, *Which one did I show?* If the child hesitates, say, *Which of these cards looks exactly like the one I showed you?*
- After the child has succeeded with the circle, ask in the same way for the triangle, and then for the square. No further trial is necessary if the child has succeeded with each symbol.

Comment:

If the child succeeds with the circle, but fails to select the square and the triangle accurately, giving either one of these two cards (but not the circle) when asked for the square, it may mean that he only compares the baseline of the symbols. This may be true even if he was able to succeed in direct matching (Item 8). When committing forms to memory, he may limit himself to noting the most striking difference between the forms, namely that between roundness and straightness or angularity.

Probe A
REDUCE THE CHOICES

MATERIALS:

Same as for Main Item.

PROCEDURE:

- Place the cards with the circle and the triangle on the table. Say to the child, *Take a good look so you can remember them.*
- Then shield the two cards and hold up the reserve card with the triangle for the child's inspection. Say, *Try hard to remember it.* Remove the card and the shield, and ask immediately which one is the same as the one you showed.
- If the child succeeds, ask for the circle next in the same way to exclude the possibility of an accidental success.
- Then remove the circle and, while the child watches, replace it on the table with the square, still exposing only two cards, the triangle and the square. After the child has regarded both cards for a while, say, *I bet you can remember them now.*
- Shield the cards from view. Hold up for the child's inspection the reserve card with the square, reminding him to take a good look so that he will know it again later. Remove the card and the shield, and immediately ask, *Which one looks like the one I just showed you?*
- If he succeeds, ask for the triangle in the same way.

Comment:

If the child now discriminates between the square and the triangle correctly, it seems clear that lack of experience accounted for his initial failure.

Main Item 18 DELAYED RECOGNITION OF LARGE SOLID FORMS (cont.)

Probe B
MAKE THE TASK CONCRETE

MATERIALS:
Same as for Main Item.

PROCEDURE:

- If the child has still failed to differentiate reliably between the square and the triangle after the reduction of difficulty in Probe A, place the three cards on the table and invite the child to name them by asking, *What do they look like?* Suggest names, such as "ball" or "apple" for the circle, "box" or "window" for the square, "boat" or "funny clown's hat" for the triangle.
- Proceed with the task as described in the Main Item.

Comment:
If he is now successful, we may conclude that the child benefited from additional and/or more concrete presentation.

Probe C
USE TACTILE AND KINESTHETIC STIMULI

MATERIALS:
Same as for Main Item.

PROCEDURE:

- Let the child trace or help him trace the outline of each card with the index finger of his leading hand. Observe whether he looks at his hand and the form closely while doing so, or whether he looks away or closes his eyes.
- When he indicates that he is ready, offer a new trial, using only the cards with the square and the triangle. After holding up the sample card for his inspection, remove it and immediately expose the cards on the table. Give a new trial using the three cards.

Comment:
Attempt to observe which sensory modality seemed most useful in helping the child recall the forms: tracing of the outline with his hand in the air, on the table, or even on the card itself; repeating to himself the verbal designation of the card in question (the concrete name, ball or apple, or the abstract label, circle); or concentrating by closing his eyes while his finger experiments with remembered motor experiences of outlines. Make note of your observations for later use in teaching the child.

If, after this additional opportunity to learn, the child has still failed, the question of his developmental readiness in this area should be considered.

⊙ Main Item 26 RECOGNITION OF PICTURES OF OBJECTS WHEN DESCRIBED IN TERMS OF USE (cont.)

Probe A MAKE THE TASK CONCRETE (cont.)

PROCEDURE:

- Place the objects in the order given above. Ask, *Which one does mother (mommy) use to fix your hair? Which one do we eat with? Which one goes on your foot? Which one can we use to drink our milk?*
- Replace objects in their original order after each response.

Probe B
REDUCE THE CHOICES

MATERIALS:

Same as for Probe A.

PROCEDURE:

- Reducing the choices to two (spoon and shoe) place only these objects on the table. Ask for each in turn by describing it as in the Probe A presentation.
- If the child succeeds, remove the spoon and the shoe, and place the remaining objects on the table, presenting them again as in Probe A. If the child is successful, then place all of the objects on the table, and present them once more.

Comment:

If the child is successful in Probe B, his difficulty in passing the Main Item was probably due to an inability to concentrate or to attend to the task and select from a wide array of stimuli.

Probe C
FOCUS THE CHILD'S ATTENTION

MATERIALS:

Same as for Probe A.

PROCEDURE:

- Place all the objects on the table. Indicating each object in turn, ask the same question (e.g., *Is this the thing we eat with?*) and continue until each object has been asked for by a description of its use, while pointing to each object in turn.

Comment:

If the child is unable to use objects meaningfully, he may be very shy and inhibited and may need encouragement to play and express himself. If that is not the case, it is important that the child be evaluated by a psychologist.

If the child is able to play and use objects meaningfully but is unable to respond to verbal commands, the possibility of a hearing problem should be investigated.

Summary of First Four Modules

Activity Notes for Summarizing the Defining the Problem & Informal Diagnostic Procedures Modules

1. Let's refer once again to Sally and take her through the process we have utilized in the past couple of days.

   (PUT A TRANSPARENCY OF WORKSHEET 1 ON THE OVERHEAD)

2. First, we defined the problem. We asked:

   1.1 Who is affected?

   Sally and her teacher.

3. Then we asked:

   1.2 What is the apparent skill deficit?

   Sally can't learn beginning and ending consonent sounds.

4. Next:

   1.3 What kind of skill deficit is it?

   a. What did we want the student to accomplish?

   We wanted her to learn beginning and ending consonant sounds.

   b. What has been done? For this we need specific information from the teacher.

   Sally has learned beginning sounds c, l, m, r, s, t, w, & no ending sounds.

5. Then, we asked:

   1.4 What remains to be done?

   She needs to learn 14 more beginning consonant sounds and 21 ending sounds.

6. Next, we conbined all above information into a statement of the problem.

   1.5 Problem statement:

Sally's teacher wants her to learn 14 beginning consonant sounds and 21 ending sounds.

7. Finally, we asked:

1.6 Are there ways to meet this problem?

At this point, yes.

(PUT A TRANSPARENCY OF WORKSHEET 2 ON THE OVERHEAD)

8. Then we continued with trying to identify the child's need. We asked:

2.1 What did we want Sally to accomplish?

Sally needs to learn 14 beginning sounds and 21 ending sounds.

9. We then asked ourselves:

2.2 What kind of information do we need to program for her?

a. What kind of questions do I have?

1) Do I have questions about her

_____background (family, previous educational experiences)
_____intellectual information (at what level is the child functioning?)
_____behavioral information (what can & can't the child do?)
_____other information (health, sensory, etc.)

2) We decided we had questions in the behavioral area.

(MARK OTHER AREAS IF THE PARTICIPANTS INDICATED TO DO SO IN THE FIRST PRESENTATION)

b. Which of these questions are answered by the information you already have?

1) With this example you have only a little behavioral information.

She knows 7 beginning consonant sounds and no ending consonant sounds.

2) In other cases, the referring teacher may have given you information that would answer your questions in certain areas, and/or you may have read her cum folder, etc.

(PUT TRANSPARENCY OF WORKSHEET 3 ON THE OVERHEAD)

c. What questions still need to be answered?

1) We decided we needed more behavioral information.

2) We wanted to know what language concepts Sally did and didn't have.

(FILL IN THE OTHER AREAS IF THE PARTICIPANTS INDICATED TO DO SO IN THE FIRST PRESENTATION)

10. By listing what types of information we still needed, we had an indication of where to begin gathering diagnostic data.

11. The next question we asked is:

2.3 Does the information you've gathered indicate a need to modify 1.5 or 2.1?

We're almost ready to answer this.

12. We then decided to examine some informal techniques for gathering diagnostic data. First, we discussed Task Analysis.

13. It is an informal, diagnostic technique.

14. You break an objective into small tasks and check to see which ones the child can or cannot do.

15. Bateman describes it as isolating, describing, and sequencing all the subtasks which the child must complete in order to meet the objective.

16. Error Pattern Analysis was the next technique we examined.

17. We described 6 steps of Error Pattern Analysis.

a. Find and mark the errors
b. Fill in correct responses
c. Describe the errors
d. Write a tentative conclusion
e. Confirm the conclusion
f. Write a diagnostic hypothesis

18. We concentrated on the first 4 steps.

19. Finally, we discussed Systematic Inquiry. This is where we modify the requirements of the task. We do this to assess the amount and kind of

assistance the child needs to do the task.

20. We ask the child to perform the task in its modified form. If he can now do the task, we have gained important information about his learning style.

21. Information from this helps us discover how the child learns best and what type of assistance he needs in order to learn the task.

22. We're now ready to begin the prescriptive programming modules. We will look at procedures for designing and implementing programs for children based on the informal diagnostic data we have collected.

Facilitator Notes for Discovering What The Child Can and Can't Do and Setting Priorities

This is a summary activity. It ties together the four informal diagnostic modules and the upcoming prescriptive programming ones. It provides participants with an opportunity to summarize the informal diagnostic information gathered on a particular child. It also presents them with a form for organizing this data into categories of what skills the child has and doesn't have, notes about the child's learning style and what further information is needed to plan the prescriptive program.

Ask the participants to gather the task analyses, systematic inquiries and error pattern analyses they have completed on worksheets and tests that your example child could have done. Be sure these worksheets and tests are consistent with the problem, age and ability levels of your example child. Because these must be consistent with your child, numbers 1 and 2 on Activity Sheet 5a will need to be completed by you, the facilitator. In the spaces provided, put the numbers of the worksheets, tests and recording sheets you want the participants to gather.

The task analyses the participants collect should be for the workbook pages and tests they analyzed during the error pattern worksheets and tests to determine what skills the child does or does not have, they can refer to the task analyses of those pages to help them understand what subtasks are entailed. This type of comparison will assist the participants to determine what the error pattern means and, therefore, what skills tha child does and does not have.

Sometimes the participants do not understand how the task analyses relate to this activity so it may be necessary to clarify it with them.

This activity also requires you to distribute one more test and two more worksheets that your example child has completed, plus a list of observations. The test should be one whose results support the child's problem as it was defined in the first module. With Sally, the example child used throughout this workshop, the Boehm Test of Basic Concepts was used. The test was filled out to indicate that Sally had missed six of the fifty concepts. This could be interpreted to mean that the child possibly had a more generalized language problem rather than just a very specific one of not being able to learn sounds.

Another test indicating problems in knowing letter sounds or letter recognition could also have been used. It is recommended that you use a test that shows a skill deficit that can be interpreted in observable terms and not one that shows an ability deficit in memory, discrimination, etc.

The two extra worksheets that are distributed can be in any area. They could be in reading or phonics and show the inabliity of the child to perform. Or, they could be in another area, such as math. With Sally, the two extra worksheets were in math. One was a computation worksheet on which Sally supposedly got all problems correct. The other was composed of math story problems. Sally got correct only those she could compute without reading the story. Her teacher wrote on her worksheet, "Sally, are you reading your work?"

A list of observations should also be distributed at this time. An example of one for Sally is included. These should be stated on observable terms. The statements selected for the example worksheet were supposedly completed by someone other than the classroom teacher. They are intended to indicate a confirmation of the defined problem (numbers 1 and 2), that Sally can hear (number 6), that she has an interest in reading (number 3), may not be able to remember a series of instruction (number 5), and does not attend well when oral instructions were given (number 4).

When the participants are analyzing the observation data, it is advisable not to let them state that Sally can or cannot perform a skill based just on the observation data. If they can take that information and find test results that support it, then it can be stated as a skill Sally can or cannot do. Many of the statements from the observation data will probably need more confirmation. On Worksheet 20, they will probably fit best in the column "More Information Needed". This would indicate that the observation data needs to be confirmed by more observation or some other means such as formal or informal test.

Objective of the Module

1. The participants, given worksheets and tests completed by a particular child, will list

   a) what skills the child can do,
   b) what skills the child can't do,
   c) what further information is needed, and
   d) notes on the child's learning style with 100% accuracy.

Materials Needed for the Module

Facilitator Materials

- Activity Notes
- 1 transparency of Worksheet 20
- overhead
- marking pens

Participant Materials

- 1 Activity Sheet 5a per participan
- 1 copy of Worksheet 20 per participant
- 1 copy of the previously completed Task Analysis, Error Pattern Analysis and Systematic Inquiry Worksheets and Recording Sheets that are applicable for the exampl child, per participant
- 1 copy each of Worksheets 21, 22, 23 and 24 per participant or one copy of each worksheet per dyad

Time Needed to Complete the Module

This module takes approximately one hour to one hour and fifteen minutes to complete

Activity Notes for Discovering What the Child Can and Can't Do and Setting Priorities

1. When we used the process of task analysis, we found out what each objective required the child to do. We found out all the subtasks she needed to accomplish to reach the objective.

2. During error pattern analysis, we found out what the child could and could not do. We began to gather specific information on what skills she had and didn't have.

3. When using the systematic inquiry procedure, we began to gather data on the child's learning style. During those activities, we listed possible modifications. However, we weren't able to check them out to find which ones would help the child successfully complete the task because we would need the actual child to do that.

4. In this activity, we want to examine the information we've gathered through informal diagnostic techniques and put this data into a format that we can refer to when writing prescriptive programs.

(HAND OUT ACTIVITY SHEET 5a. COMPLETE NUMBERS 1 AND 2 OF THIS ACTIVITY SHEET BASED ON THE WORKSHEETS AND SUBTESTS YOU SELECTED FOR YOUR EXAMPLE CHILD.)

Activity Sheet 5a

1. Find the task analysis worksheets and Recording Sheets applicable to Sally:
2. Find the Error Pattern Analysis Worksheets and Recording Sheets applicable to Sally:
3. In dyads, analyze these worksheets and tests plus additional ones given to you by the facilitator.
4. Based on your analysis, list what skills Sally can and cannot do and what skills you may still need more information on on Worksheet 20
5. At this time, ignore the Learning Style column.
6. Join the large group for discussion.

(HAND OUT WORKSHEET 20 AND THE ADDITIONAL TEST, WORKSHEETS 21, 22, 23 AND 24)

(AFTER THE PARTICIPANTS HAVE HAD TIME TO COME UP WITH THEIR DYAD LISTS, PUT A TRANSPARENCY OF WORKSHEET 20 ON THE OVERHEAD. ASK THE GROUP TO SAY WHAT SKILLS THEY THINK SALLY CAN AND CAN'T DO AND WHICH ONES THEY NEED MORE INFORMATION ON. RECORD THEIR RESPONSES IN OBSERVABLE TERMS. IF THEY SAY SOMETHING IN "NON-OBSERVABLE TERMS", PARAPHRASE IT FOR THEM IN OBSERVABLE TERMS AND ASK THEM IF THAT IS WHAT THEY MEAN.)

5. We have the Learning Style Column yet to complete on this worksheet. If we were doing this on a real child, we would complete this column with the data we had gathered from the systematic inquiry process. We would then have on one sheet the skills the child could and could not do and the ways she learned best.

6. Because we don't have a real Sally, we can't check her to find out which modifications would help her learn best. For this activity, however, please find the Systematic Inquiry Worksheets __, __, and __ that you completed.

(THESE BLANKS SHOULD BE FILLED IN BY YOU, THE FACILITATOR. THEY SHOULD BE THE NUMBERS OF THE WORKSHEETS OR TESTS THAT FIT THE AGE, ABILITY AND PROBLEM OF THE EXAMPLE CHILD.)

7. From the data on these worksheets, select some modifications that you think would help Sally successfully complete the task. For example, one modification might be using concrete materials or using cue words to gain her attention. Select three such modifications and write them in the Learning Style Column on Worksheet 20.

   In this activity, you're only guessing at the modifications that would help Sally. In a real world situation, you would have tried these with the child and you would know which ones fit her style of learning.

(GIVE THE PARTICIPANTS ABOUT TEN MINUTES TO DO THIS.)

8. On this worksheet, we have listed lots of skills that Sally doesn't know. How do we set priorities on what to teach her first?

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE PARTICIPANTS' RESPONSES. ACCEPT ALL RESPONSES EVEN IF YOU DON'T AGREE WITH THEM. IF THEY FAIL TO MENTION ANY OF THE FOLLOWING, SUGGEST THEM YOURSELF:

Teacher's request
Parent's request
Child's request
Scope & Sequence of text indicates next priority
Task Analysis of goal or objective for the child indicates the next step
Selecting the area as top priority that, when altered, will have the most effect on the child's performance.)

9. Using this list, what are some possibliities for Sally? What might be a priority for her?

10. With Sally it might be more obvious what her priorities are and where our remediation should start.

11. But with other children it is not as easy to establish priorities, but just as necessary. Unless we set priorities, our efforts become too fragmented and we don't make as much progress as we'd like.

In establishing priorities one must take particular caution to try to collect information and establish priorities which are pertinent to the education decision. For example, finding out that Sally's mother was divorced when Sally was three is not relevant to me in planning for Sally in reading in second grade.

(PUT TRANSPARENCY OF WORKSHEET 3 ON THE OVERHEAD).

12. Now, we're ready to answer question 2.3. Does the diagnostic information we have gathered indicate a need to modify 1.5 or 2.1 which were our problem statement and goals for Sally?

(PUT TRANSPARENCIES OF WORKSHEETS 1 & 2 ON THE OVERHEAD SO THEY CAN SEE THE PROBLEM STATEMENT & GOAL FOR SALLY.

RECORD THE PARTICIPANTS' RESPONSE. IF IT IS "YES", ASK THEM TO RE-WORD 1.5 AND 2.1)

13. We've gathered some informal diagnostic information and some notes on her style of learning. We analyzed it and came up with a list of skills Sally couldn't do. We can now start designing a prescriptive program for Sally based on the priorities. The first question we need to ask is "What objectives are suggested for Sally's program based on the information we've collected?"

(AS YOU'RE SAYING THIS, WRITE THE FOLLOWING ON A BLANK TRANSPARENCY: INFORMAL DIAGNOSTIC INFORMATION → SKILLS SHE CAN & CAN'T DO → PRIORITIES → OBJECTIVES).

Discovering What the Child Can and Can't Do and Setting Priorities

Activity Sheet 5a

1. Find the Task Analysis Worksheets and Recording Sheets applicable to Sally:
2. Find the Error Pattern Analysis Worksheets and Recording Sheets applicable to Sally:
3. In dyads, analyze these worksheets and tests plus additional ones given to you by the facilitator.
4. Based on your analysis, list what skills the child can and cannot do and what skills you may still need more information on on Worksheet 20.
5. At this time, ignore the Learning Style Column.
6. Join the large group for discussion.

DISCOVERING WHAT THE CHILD CAN AND CAN'T DO

Worksheet 20
(Use in Activity 5a)

CAN DO	CAN'T DO	MORE INFORMATION NEEDED	LEARNING STYLE

Discovering What the Child Can and Can't Do

Worksheet 21
(Use in Activity 5a)

This should be another test that the example child has been administered. The results should support the child's problem as it was defined in the first module.

It is recommended that this test show a deficit in a skill area that can be stated in observable terms and not in an ability area such as intelligence or memory.

Discovering What the Child Can and Can't Do

Worksheet 22
(Use in Activity 5a)

This worksheet should be one that the child has completed. It can be one in the child's problem area as it was defined in the first module. If it is, it should confirm that the child has difficulty with that skill.

The worksheet could also be one that taps a skill other than the problem one. If so, the child might do well on the worksheet. For example, if the child's difficulties were in learning letter sounds, a math worksheet might be inserted here which indicated that the child's computation skills were average or better.

Worksheet 23
(Use in Activity 5a)

This worksheet should be one that the child has completed. It can be one in the child's problem area as it was defined in the first module. If it is, it should confirm that the child has difficulty with that skill.

The worksheet could also be one that taps a skill other than the problem one. If so, the child might do well on the worksheet. For example, if the child's difficulties were in learning letter sounds, a math worksheet might be inserted here which indicated that the child's computation skills were average or better.

Discovering What the Child Can and Can't Do

Worksheet 24
(Use in Activity 5a)

Observation Data

1. She has learned the beginning consonant sounds of c, l, m, r, s, t, w.
2. She has learned no ending sounds.
3. She has been observed looking at picture books on 3 different occasions.
4. On 5 occasions, she was observed exhibiting "non-attending behavior" when the teacher was giving the class oral instructions.
5. On 2 occasions, the teacher gave her a series of three different instructions to follow in sequence (ie. sharpen your pencil, then sit down and open your book to page 20.) She had to ask the teacher to repeat the last instruction in the series both times.
6. Sally responded when called to on the playground on two different occasions.

Facilitator Notes for Behavioral Objectives

This module provides an introduction to the procedure of using behavioral objectives, practice in writing them and practice in task analyzing long and short range ones. It is the module most often eliminated because participants have already received instruction in it. Check your pretest results to determine if you need to include it.

The long and short range objectives written for Sally by the participants should be realistic in light of the diagnostic information gathered previously.

Objectives of the Module

1. The participant will read the handout concerning behavioral objectives and will complete Worksheet 25 with 100% accuracy.
2. The participants, given informal diagnostic information concerning a particular child, will write one appropriate long range objective, including three out of three components of an objective, with 100% accuracy.
3. The participants, after having written the long range objective, will write a task analysis of this objective with 100% accuracy.
4. The participants, after having written a task analysis of the long range objective, will write two short range objectives, including three out of three components for each objective with 100% accuracy.
5. The participants, after having written two short range objectives, will write a task analysis of one of the short range objectives with 100% accuracy.

Materials Needed for the Module

Facilitator Materials	Participant Materials
Activity Notes	1 Activity Sheet 6a per participant
1 transparency of Worksheet 25	1 copy of the paper Instructional Objectives per participant
1 transparency of Worksheet 26	1 copy of Worksheet 25 per participant
overhead	1 copy of Activity Sheet 6b per participant
marking pens	1 copy of Worksheet 26 per participant

Time Needed to Complete the Module

One hour to an hour and fifteen minutes will be needed to complete the module.

Activity Notes for Behavioral Objectives

1. Based on the informal diagnosis we've done, our listing of what skills Sally can and can't do and our priorities for her, we can now start designing a prescriptive program for her. When designing such a program, we first need to ask, "What objectives are suggested for Sally's program based on the information we've collected?"

(HAND OUT ACTIVITY SHEET 6a, THE PAPER INSTRUCTIONAL OBJECTIVES AND WORKSHEET 25. GIVE PARTICIPANTS ABOUT TWENTY MINUTES TO READ THE PAPER AND COMPLETE WORKSHEET 25.)

Activity Sheet 6a

1. Read the handout.
2. Do Worksheet 25 individually.
3. Discuss your worksheet with a facilitator.

2. It's a good idea to record objectives on some type of form. You then can use them
   a. as a guide so you know in which direction your instruction is going,
   b. as a way to communicate to regular classroom teachers what you're doing,
   c. as a way to communicate with parents, and
   d. as a method of being accountable for your work for it is a record of what you've accomplished.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND DRAW THE FOLLOWING FORM ON IT:)

Objectives	Methods	Materials

3. This is an example of a simple form you could use.

(HAND OUT ACTIVITY SHEET 6b AND PUT A TRANSPARENCY OF WORKSHEET 26 ON THE OVERHEAD.)

Activity Sheet 6b

1. Watch the demonstration for completing Worksheet 26.
2. In dyads, write one long range objective for Sally based on information you now have about her, on Worksheet 26.
3. Discuss your long range objective with a facilitator.
4. Do a task analysis of the long range objective.
5. Discuss it with a facilitator.
6. Based on the task analysis, write two short range objectives for Sally on Worksheet 26. Be sure they correspond to the long range one.
7. Discuss your two short range objectives with a facilitator.
8. Do a task analysis of one of your short range objectives.
9. Discuss this with a facilitator.
10. Return to the large group for discussion.

4. I'm going to do two demonstrations on writing objectives, long range and short range. In comparing the two, a long range objective is global, covers a relatively longer period of time and is less specific. We can write a long range objective for something we want the child to accomplish by the end of a year.

   We may write one or many short range objectives to meet this long range objective.

5. In looking at this particular recording sheet, we see categories for
   a. who is involved, which means who is the objective written for;
   b. what must be done, which corresponds to the behavior;
   c. when, with what, how, where will it be done, which corresponds to the conditions; and
   d. how well must it be done, which corresponds to criteria.

(RECORD THE FOLLOWING ON WORKSHEET 26.)

6. My first long range objective that I'm going to record on this form is:

who	what (behavior)	when, how, where, with what (conditions)	how wel (criteria

the student	will say the name of the capital of each state in the U. S.	when asked to do so by his teacher by December 20, 1975	with 100% accuracy

7. My next step is to task analyze the long range objective to get my short range ones. At this point, my task analysis will be more global than when I task analyze the short range objective.

8. My task analysis might be:

   a. Attends to the teacher/task.

   b. Demonstrates an understanding of the keywords in the directions.

   c. Hears name of each state east of the Mississippi.

   d. Says name of each state capitals east of the Mississippi.

   e. Hears name of each state west of the Mississippi.

   f. Says name of each state west of the Mississippi.

9. From this task analysis, I can select some tasks to become short range objectives.

10. One short range objective to achieve the original long range objective I would select is:

who	what (behavior)	when, how, where with what (conditions)	how well (criteria)
the student	will say the name of the state capitals east of the Mississippi River	when asked to do so by his teacher by October 5, 1975	with 100% accuracy

11. Another might be:

who	what (behavior)	when, how, where with what (conditions)	how well (criteria)
the student	will say the names of the state capitals west of the Mississippi River	when asked to do so by his teacher by October 5, 1975	with 100% accuracy

12. In designing a prescription you usually decide upon a long range objective first. Then you write any number of short range objectives to accomplish this long range objective. When one short range objective is accomplished you'd move on to the next. On this form, let's say that the first short range objective I wrote is the first one I want this child to accomplish in meeting the above long range objective. I now want to analyze this objective into its component tasks.

13. My task analysis of the short range objective is:

    a. Attends to task.

    b. Demonstrates an understanding of the key words in the directions.

    c. Hears state name.

    d. Repeats state name.

    e. Matches state name with name of all state capitals.

    f. Selects correct name by saying it.

14. Let's try another long range objective:

who	what (behavior)	when, how, where, with what (conditions)	how well (criteria)
the child	will complete a page of 15 subtraction problems that have 2 digit minuends and subtrahends	by June 1, 1976	with 85% accuracy

15. My task analysis of this long range objective is:

    a. Attends to task.

    b. Demonstrates an understanding of the key words and concepts in the directions (minus, etc.).

    c. Computes subtraction problems with one digit minuends and subtrahends.

    d. Computes subtraction problems with two digit minuends and subtrahends.

16. Looking at this task analysis, I want to write one range object that deals with demonstrating an understanding of the key words and concepts.

17. My short range objective is:

who	what (behavior)	when, how, where, with what (conditions)	how well (criteria)
the child	will say "take away"	by August 21 when shown the minus sign on a card by his teacher within 2 seconds of its visual presentation	4 out of 4 times

18. Another short range objective that I would choose comes from the subtask about computing subtraction problems with one digit minuends and subtrahends.

who	what (behavior)	when, how, where with what (conditions)	how well (criteria)

the child	will complete	by September 15 a worksheet with 15 subtraction problems that have 1 digit minuends and subtrahends with differences of 5 or less	with 85% accuracy

19. My task analysis for the first short range objective is:

    a. Attends to teacher.

    b. Demonstrates an understanding of the concepts in directions.

    c. Matches minus sign with background information.

    d. Selects response by saying "take away."

20. Any questions or comments?

(HAND OUT WORKSHEET 26)

21. Complete Worksheet 26 based on your knowledge of Sally. Be sure your short range objectives correspond to your long range one.

22. For this activity, you need four checks by a facilitator. One after you write your long range objective, another after you task analyze it, a third after you write your short range objectives and the last one after you task analyze one of those.

(AFTER THE PARTICIPANTS HAVE COMPLETED WORKSHEET 26 ASK THEM TO JOIN THE LARGE GROUP FOR DISCUSSION.)

23. We feel that behavioral objectives are a very important first step in designing prescriptive programs. Can you see ways you could use them?

(IF THE GROUP DOES NOT MENTION THE FOLLOWING REASONS, THE FACILITATOR SHOULD SAY THEM)

    a. so we can more accurately measure the child's progress

    b. to organize our lessons with the child

    c. to have to show to classroom teachers, principles, etc., so they can see what we're working on

24. Any questions or further discussion about behavioral objectives?

Examples of Behavioral Objectives:

1. By December 30, 1975, the student will say the name of the capital of each state in the U.S., with 100% accuracy, when asked to do so by his teacher.
2. By October 15, 1975, the student will say the names of the capitals of the 25 states in the eastern half of the U.S., with 100% accuracy, when asked to do so by his teacher.
3. By November 15, 1975, the student will say the names of the capitals of the states in the western half of the U.S., with 100% accuracy, when asked to do so by his teacher.
4. By June 1, 1976, the child will complete a page of 15 subtraction problems that have 2 digit minuends and subtrahends, with 85% accuracy.
5. By August 21, 1975, the child will say "take away" when shown the minus sign on a card by his teacher, 4 out of 4 times within 2 seconds of its visual presentation.
6. Given a worksheet with 15 subtraction problems that have 1 digit minuends and subtrahends with differences of 5 or less, the student will complete this worksheet by September 15, 1975 with 85% accuracy.

Behavioral Objectives

Activity Sheet 6a

1. Read the handout.
2. Do Worksheet 25 individually.
3. Discuss your worksheet with a facilitator.

Behavioral Objectives

Activity Sheet 6b

1. Watch the demonstration for completing Worksheet 26.
2. In dyads, write one long range objective for Sally based on information you now have about her, on Worksheet 26.
3. Discuss your long range objective with a facilitator.
4. Do a task analysis of the long range objective.
5. Discuss it with a facilitator.
6. Based on the task analysis, write two short range objectives for Sally on Worksheet 26. Be sure they correspond to the long range one.
7. Discuss your two short range objectives with a facilitator.
8. Do a task analysis of one of your short range objectives.
9. Discuss this with a facilitator.
10. Return to the large group for discussion.

Writing Behavioral Objectives

Worksheet 25
(use in Activity 6a)

Divide each of the following three instructional objectives into the three components of an instructional objective.

1. Given a bar of soap, a wash basin with hot and cold water taps and the teacher's instructions to "wash your hands," the student will set the stopper, fill the basin half-full of water, pick up the soap, dip both hands into the water, raise hands from the water, turn the soap in his hands ten or more times, lay the soap down, rub his hands together and dip his hands in the water again. He will do all eleven steps in this sequence at least once a day for five consecutive days.

CONDITIONS	BEHAVIOR	CRITERIA

2. Given that the student speaks and has an address and that the teacher asks the question "What is your address?", the student will say his address within fifteen seconds after being asked to do so.

CONDITIONS	BEHAVIOR	CRITERIA

3. Given that the teacher models the sounds of the phonetic alphabet, the student will imitate each sound within ten seconds after each sound is modeled.

CONDITIONS	BEHAVIOR	CRITERIA

Worksheet 26
(Use in Activity 6b)

Behavioral Objectives

What are the objectives suggested by the information you have collected about this child?

Objectives	Who	(Behavior) What must be done	(Conditions) When, how, where, etc.	(Criteria) How well must it be done?
ng Range				
sks for ng Range				

Worksheet 26
(Use in Activity 6b)

ectives	Who	(Behavior) What must be done	(Conditions) When, how, where, etc.	(Criteria) How well must it be done?
rt Range				
ks for rt Range				

INSTRUCTIONAL OBJECTIVES

An instructional objective describes the final outcome of instruction in terms of observable behavior, states the conditions under which the final performance may be obtained, and specifies the criterion by which the final performance may be judged (Mager, 1962). Instructional objectives describe educational outcomes that are directly observable. For this reason, they are often referred to as behavioral objectives because they describe student outcomes in publicly observable behavior (Wheeler and Fox, 1972).

Educators use instructional objectives to design programs for students, to evaluate the child's performance in such programs, to determine the adequacy of the overall education program and to evaluate their own instruction (Kibler, Barker and Miles, 1970). They can also be used as a method of communicating to other educators and parents what a student's instructional program is and how he is progressing through it.

When writing instructional objectives, educators must identify the expected outcomes of instruction in each curriculum area included in a child's instructional program. After these outcomes have been identified, instructional objectives, including the following three components, can be written (Mager, 1962):

1. Conditions. A statement of the conditions under which the behavior is to be observed.

2. Behavior. A description of expected terminal behavior which can be observed.

3. Criteria. A statement of the criteria of acceptable performance.

An example of an instructional objective for this module is:

> After reading the handout on instructional objectives, completing a worksheet and observing a demonstration, participants will write one long range and two short range instructional objectives with 100% accuracy as determined by the facilitator using the criteria outlined in the handout.

This instructional objective contains a statement of all three critical components which can be separated using the following format:

CONDITIONS	BEHAVIOR	CRITERIA
After reading the handout on instructional objectives, completing a worksheet and observing a demonstration,	the participant will write one long range and two short range instructional objectives	with 100% accuracy as determined by the facilitator using the criteria outlined in the handout.

Another example of an instructional objective pertains to a pre-reading curriculum:

> Given five cards, shown one at a time with a different letter on each, the student will correctly name the letter within five seconds of its presentation. He will make no more than one error (90% accuracy) on each of three consecutive presentations of the five cards in random order. He will complete this objective by September 30, 1976.

This instructional objective includes a description of the terminal behavior that is observable (BEHAVIOR), a statement of the conditions under which the behavior is to be observed (CONDITIONS), and a statement of the criteria for acceptable performance (CRITERIA). The three components can be separated as such:

CONDITIONS	BEHAVIOR	CRITERIA
Given five cards shown one at a time with a different letter on each,	the student will correctly name the letter	within five seconds of presentation. He will make no more than one error (90% accuracy) on each of three consecutive presentations of the five cards in random order. He will complete this objective by September 30, 1976.

It is necessary to use observable terms when writing instructional objectives to clearly communicate what you mean. If instructional objectives are written in ambiguous terms (terms that are not directly observable), then the educator who wrote them may be the only one who "knows" when his pupils achieved them (Wheeler and Fox, 1972).

Deno and Jenkins (1967) had teachers rate the extent to which various action verbs describe events that are directly observable. The following words were grouped into three categories on the basis of their study: action verbs that are *directly observable*, those that are *ambiguous*, and those that are *not directly observable*.

Action verbs that are directly observable

The following list of action verbs label events which teachers judged to be directly observable.

- To cover with a card
- To mark
- To underline
- To repeat orally
- To write
- To shade
- To fill in
- To remove
- To draw
- To lever press
- To point to
- To walk
- To count orally
- To put on
- To number
- To label
- To place
- To line-draw
- To cross out
- To circle
- To say
- To read orally
- To name
- To state
- To tell what

When writing instructional objectives educators should make every effort to use words that describe behaviors like those in the above list.

Ambiguous action verbs

The following list of action verbs were thought to be relatively ambiguous when compared to the list above. These behaviors may be open to more than one interpretation and require more effort to measure on the part of the educator.

To identify in writing
To match
To arrange
To play
To give
To choose
To use
To total
To measure
To demonstrate
To round off
To respond to
To inquire
To acknowledge
To see
To take away
To check
To finish
To locate
To reject
To partition
To subtract
To divide
To add
To regroup
To group
To average
To utilize
To find
To convert
To construct
To make
To read
To connect
To select
To change
To perform
To order
To supply
To multiply
To complete
To summarize
To borrow
To identify

Action verbs that are not directly observable

The following words were judged by teachers not to be directly observable. All these words describe actions that must be inferred from other behaviors. These words should not be used when writing instructional objectives.

To distinguish
To conclude
To be curious
To apply
To solve
To deduce

To develop
To concentrate
To generate
To think critically
To recognize
To be aware
To infer
To realize fully
To feel
To determine
To think
To discriminate
To appreciate
To become competent
To wonder
To analyze
To test
To perceive
To create
To learn
To discover
To know
To like
To understand

Instructional objectives can be written for different lengths of time in the child's educational program. Objectives that state that the behavior will be accomplished at the end of several months or longer are usually referred to as long range instructional objectives. Objectives that state the behavior will occur within shorter periods of time, such as a day to two months, are often called short range instructional objectives.

Both kinds contain the three criteria specified by Mager (1962): conditions under which final performance may be observed, a second statement of behavior in observable terms, and a specific criterion by which final performance may be judged. The only difference between the two kinds is the length of time needed to accomplish the objective.

Short range instructional objectives must correspond to long range instructional objectives. Therefore, if a long range instructional objective is written for a child in the area of reading, the short range instructional objectives that are written for his reading program must lead to the accomplishment of the long range objective.

REFERENCES

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Mager, R. F. Preparing Instructional Objectives. Palo Alto, California: Fearon Publication, 1962.

Wheeler, A. H. and Fox, W. L. Behavior Modification: A Teacher's Guide to Writing Instructional Objectives. Lawrence, Kansas: H & H Enterprises, Inc., 1972.

Facilitator Notes for Learning Methods

This is one of the most important modules in the sequence. When participants finish it they will have been introduced to different learning methods and will have had practice applying them when writing instructional, or learning, sequences.

This module assists participants to see how diagnostic information is used to formulate prescriptive programs. The facilitator might want to spend time reviewing how diagnostic information was gathered through the processes of task analysis, error pattern analysis and systematic inquiry. He/she might then review how this data was used to establish a list of skills of what the child could and could not do, to set priorities and to write behavioral objectives.

It is also important for the facilitator to emphasize the differences between methods and materials and to stress that methods selected must always be consistent with the behavioral objectives.

The following recommendations are made for the discussion at the end of the Polar Algebra activity. On page five of the Polar Algebra packet, two discussion topics are listed. It is recommended that Topic 2 be discussed first, as it is the major reason why this activity is used in this module. Besides talking about the three questions listed under Topic 2, the facilitator should try to get participants to suggest other methods for instructing children with learning problems. He should stress that all children learn differently. They may share a common handicap, but that doesn't mean they learn in the same way.

After the participants have finished discussing Topic 2, the questions from Topic 1 should be presented.

In Activity 7h, the facilitator should remind participants that they are not critiquing teaching style but the learning sequence that has been written. In other words, their comments on the observation checklist, Worksheet 30, should refer to how the learning sequence taught the child and not how the teacher implemented it. This will reduce anxiety on the part of the participants role playing as teachers who may be afraid that their teaching style may be critiqued.

Before participants begin this module they should have task analysis skills. If it has been quite some time since they have received instruction in task analysis, it would be best to review that process with them before beginning the learning methods module.

Objectives of the Module

1. The participants will list three methods for each short range objective for Sally with 100% accuracy.

2. The participants will list reasons why each method might work, why each one may not work, and at least one way to solve each reason why the method may not work with 100% accuracy.

3. The participants will read two learning sequences and list the teaching principles found in them with 90% accuracy.

4. The participants will read pages 51-63 and 69-73 of Bateman's Essentials of Teaching and list the learning principles mentioned in the reading with 95% accuracy.

5. The participants will listen to the lecture and list the principles mentioned in it with 95% accuracy.

6. The participants will write a learning, or instructional, sequence which includes a behavioral objective, learning style modifications and learning principles from the composite list with 90% accuracy.

7. The participants will critique another dyad's learning sequence using the Feedback Sheet, Worksheet 29, with 90% accuracy.

8. The participants will role play the learning sequences, observe the role plays using the Observation Checklist, Worksheet 30, and discuss their observations with 90% accuracy.

9. The participants will discuss if sequences can be used in a regular classroom and how much a teacher can modify her teaching situation with 85% accuracy.

10. The participants will do a task analysis for writing instructional sequences with 85% accuracy.

11. The participants will identify problems they had with sequence writing, possible future problems, and solutions for both types of problems with 95% accuracy.

Materials Needed for the Module

Facilitator Materials

Activity Notes

Polar Algebra Transparencies

1 transparency of Worksheet 27

1 transparency of Worksheet 28

1 transparency of Problems/Solutions

blank transparencies

overhead

marking pens

Participant Materials

Polar Algebra Material

1 copy of the Eel article per participant

1 copy of Activity Sheet 7a per participant

1 copy of Worksheet 27 per participant

1 copy of Activity Sheet 7b per participant

1 copy of Worksheet 28 per participant

1 copy of Activity Sheet 7c per participant

Two different learning sequences per participant

1 copy of Activity Sheet 7d per participant

1 copy of Essentials of Teaching per participant

1 copy of Activity Sheet 7e per participant

1 copy of Activity Sheet 7f per participant

1 copy of Activity Sheet 7g per participant

1 copy of Worksheet 29 per participant

1 copy of Worksheet 30 per participant

1 copy of Activity Sheet 7h per participant

Participant Materials - CONT.

Construction paper, scissors, tape and magic markers

1 copy of Activity Sheet 7i per participant

Time Needed to Complete the Module

This module takes approximately three and one half to four hours to complete. It should be presented in one block of time if possible. If not, it is suggested that Activities 7a, 7b, 7c, 7d and 7e be completed in one session and Activities 7f, 7g, 7h and 7i in the second session. Then, both sessions would be about two hours long.

Activity Notes for Learning Methods

1. We're now ready to move into the second step of prescriptive programming. We have our objectives. Now we need to decide what methods we will use to reach those objectives.

2. We need to ask ourselves, "What are all the possible methods for accomplishing each objective?"

3. Methods are the how to teach. Examples of methods are:

   a. One-to-one student-teacher interaction
   b. Auditory-visual approaches
   c. Positive reinforcement

4. There's a difference between methods - the How to teach - and programs or materials - the What to teach

   a. Distar is not a method but directive teaching is the method Distar is based on.

5. Methods are general. Saying the "phonetic method to reading" isn't quite correct. Phonics is a programmatic approach. You couldn't say the "phonetic approach to math," could you? That's why we speak of the "auditory-visual" method. We can talk about teaching reading using the auditory-visual approach and teaching math facts the same way.

(HAND OUT THE EEL ARTICLE AND GIVE THE GROUP ABOUT FIVE MINUTES TO READ IT).

6. One thing I think this story really points out is that all children learn differently, handicapped ones included. Just because children all have the same handicap doesn't mean they learn in the same way.

7. We're going to learn more about different learning methods by playing a game called Polar Algebra.

(FIND THE POLAR ALGEBRA MATERIALS AND PLAY THE GAME. BE SURE TO INCLUDE THE DISCUSSION.)

8. Polar Algebra has introduced us to some methods other than what we mentioned before. We're now going to try to brainstorm some methods for the objectives we wrote for Sally.

(PUT A TRANSPARENCY OF WORKSHEET 27 ON THE OVERHEAD AND DO A DEMONSTRATION ON HOW TO COMPLETE IT.)

9. Let's say my short range objective for Sally was, "The student will correctly pronounce a word, that the teacher shows her on a flashcard, within three seconds of its visual presentation, with 100% accuracy."

10. Some methods we could use to reach this objective might be peer tutoring, positive reinforcement and word games.

(RECORD THESE IN THE METHODS COLUMN).

Any others?

11. For the time being, let's ignore the materials column on this page. Complete the rest of the worksheet for each objective you and your partner wrote for Sally.

(HAND OUT ACTIVITY SHEET 7a AND WORKSHEET 27.)

Activity Sheet 7a

1. In dyads, list your short range objectives for Sally on Worksheet 27.
2. Brainstorm and list at least three methods to accomplish each objective.
3. Discuss your results with a facilitator.
4. At this time, ignore the "materials" column.

(GIVE THE PARTICIPANTS ABOUT TEN MINUTES TO COMPLETE WORKSHEET 27.)

12. Let's discuss some other methods you may or may not be familiar with.

13. Task Analysis can be used as a remedial method. In task analysis, we:

    a. Establish an objective and break it down into small tasks or steps.

    b. Sequence them.

    c. Construct a checklist of tests for each subtask.

    d. Administer the checklist to find out what subtasks the child can and can't do.

    e. Teach the child the subtasks he can't do.

        1) When you're teaching these subtasks, you're moving in a sequential order from the first task the child can't do through the last task that, when the child performs it, signals that the objective has been met.

        2) So, task analysis has provided you with a lesson plan. You know what skill to teach first, second, etc.

(RECORD THE FOLLOWING ON A BLANK TRANSPARENCY.)

14. Remember our task analysis of the word mat? It was:

    a. Attend to teacher/task.

    b. Demonstrates an understanding of the key words in the directions.

    c. Demonstrates left-to-right sequencing.

    d. Matches a letter sound to the correct letter symbol.

e. Says the short ă sound when sees the letter a between two consonants in a three-letter word.

f. Blends the individual sounds into the word.

g. Says the whole word.

15. You may find some children that don't know how to do one of the lowest tasks on the hierarchy, but can do the second and fourth. For example, a child may not know the key words in the directions or that he is to move in a left-to-right sequence. But, he can match letter sounds to their correct symbols and he can blend sounds.

 a. In this case, start your teaching with the first task he can't do and proceed through the others in a sequential order.

 b. This may seem redundant and you may ask yourself, "Why bother, then, to do any informal testing in the first place to find out what tasks the child can or can't do?"

  1) When you're working with handicapped children, you can't assume that they will realize this is where the second small step fits in. You can't assume that even if they can blend sounds that they will realize that blending occurs after they match letter sounds and symbols.

  2) If we didn't teach steps 4 and 6 because we thought the child already knew them, we would be reinforcing an out-of-sequence learning pattern.

  3) You aren't re-teaching the skills he knows, you're giving him practice in how they fit together sequentially.

  4) Another example: Let's say we had done a task analysis of getting coke out of a machine. Let's say we did an informal diagnostic check on those skills needed and found the only one the child could do was put money in the slot. If we went back and taught him all the other skills but never had him practice the one he knew, he still wouldn't be able to get coke out of the machine because he wouldn't know where the skill of putting money in the slot belonged in the sequence. So, we must always include the skills he already knows so he can understand where they fit in.

16. Another danger to watch for in task analysis is not to break the steps down too far. If you make them too small, you may be teaching the child what he already knows. Let's say you were trying to teach him to put together a puzzle. Your first step was to place the puzzle piece so it was almost in place - all the child had to do was move it just a little and it would be in place. Be sure your child needs to start at that level before you break the steps down that far. He may be able to do it with the puzzle piece several inches from the correct spot. How far you break the task down depends on how difficult it is for the child to learn the task. This, of course, varies with children but also some tasks in some academic areas may need to be broken down more for a child than tasks in other areas.

17. Any questions or discussion about task analysis as a remedial method?

18. We've selected some methods for our objective. Until we have actually tried them out with a child, we will not be sure if they work or not. However, in the next activity we will try to pinpoint some areas that could make the method a success or failure.

Before implementing a certain method, we want to be as sure as we can be that it will work. There will always be a chance that something happens that makes the method fail but there are some problems that, if recognized early, we can avoid. Some children with learning problems don't adjust easily to changes in methods. We can possibly avoid making these changes if we use the following process.

(PUT A TRANSPARENCY OF WORKSHEET 28 ON THE OVERHEAD.)

19. In the left column, I am going to list some methods I could use to meet my objective.

(RECORD AT LEAST THREE METHODS FOR THE OBJECTIVE: "THE STUDENT WILL CORRECTLY PRONOUNCE A WORD, THAT THE TEACHER SHOWS HER ON A FLASHCARD, WITHIN THREE SECONDS OF ITS VISUAL PRESENTATION, WITH 100% ACCURACY.")

20. Now, I am going to list the reasons why I think each method may work and reasons why I think it may not. Then I will list ways to solve the reasons why I think it won't work.

(LIST THE REASONS WHY A METHOD MAY OR MAY NOT WORK. THESE CAN BE "MYTHICAL". FOR EXAMPLE, A REASON WHY GAMES MAY BE A WORKABLE METHOD IS THAT THEY WOULD BE HIGHLY MOTIVATING TO THE CHILD. A SECOND REASON MAY BE THAT THEY ARE EASILY AVAILABLE. REASONS WHY GAMES MAY NOT WORK IS THAT THEY WOULD DISTRACT THE OTHER CHILDREN AND THE ONES AVAILABLE HAVE PARTS THAT ARE BREAKABLE. ONE WAY TO SOLVE A REASON WHY THE METHOD MAY NOT WORK IS TO SET UP A CUBICLE WHERE THE GAMES CAN BE PLAYED AND NOT DISTRACT OTHERS. ANOTHER SUGGESTION WOULD BE TO REINFORCE THE BREAKABLE PARTS OF THE GAME OR REPLACE THEM WITH NONBREAKABLE ITEMS. COMPLETE THIS PROCESS FOR ALL THREE METHODS.)

21. Any questions or comments about this procedure? When I do this, I am able to make a decision about whether or not to use a certain method. If there are many reasons not to use it and no way to solve these, I can prevent problems by not implementing it and selecting another. This may help me decide what method to use if I have thought of several that, at first, seem equally good.

(HAND OUT ACTIVITY SHEET 7b AND WORKSHEET 28.)

Activity 7b

1. In dyads, list the methods you would use to reach your objective on Worksheet 28.
2. List the reasons why *each* method might work.
3. List the reasons why *each* method may not work.
4. List at least one way you could solve each reason why the method may not work.

(AFTER ABOUT FIFTEEN MINUTES, ASK THE PARTICIPANTS TO JOIN THE LARGE GROUP AGAIN.)

22. Next, we're going to look at the learning method called directive teaching. This method incorporates several other methods and focuses on teaching instructional skills in a precise, organized manner.

23. In studying directive teaching, we are going to learn to apply some of its principles in writing instructional, or learning, sequences.

24. A learning sequence is:

    a. an uncluttered script
    b. that can be used to teach a child a fact or concept such as a

        1) language concept like the word "more"
        2) letter sound
        3) number, name, etc.

25. It is a series of small subtasks that are sequentially ordered.

(HAND OUT ACTIVITY SHEET 7c AND GIVE PARTICIPANTS TIME TO READ IT.)

Activity 7c

1. Read two learning sequences.

2. Form a triad.

3. Review the sequences and list the teaching principles found in them.

4. Join the large group and develop a composite list of principles used in sequence writing.

26. Some examples of the teaching principles you may find in the learning sequences are

    a. Positive reinforcement - words like "good".
    b. Breaking the objective into small tasks.

27. Do you have any questions on this activity?

(HAND OUT TWO SEQUENCES YOU HAVE PREPARED. GIVE THE PARTICIPANTS ABOUT TEN MINUTES TO READ THEM. EXAMPLES OF SOME SEQUENCES ARE INCLUDED AT THE END OF THE MODULE.)

28. Form triads to review the sequences for learning principles.

(AFTER FIFTEEN MINUTES, ASK THE TRIADS TO FORM A LARGE GROUP TO DEVELOP A COMPOSITE LIST OF PRINCIPLES USED IN SEQUENCE WRITING. RECORD THE GROUP'S RESPONSES ON THE OVERHEAD. ACCEPT ALL RESPONSES.)

(HAND OUT ACTIVITY SHEET 7d. GIVE THE PARTICIPANTS ABOUT TWENTY MINUTES TO READ. ASK THEM TO JOIN THE LARGE GROUP AND ADD ANY OF BATEMAN'S CONCEPTS TO THE COMPOSITE LIST THAT ARE MISSING FROM IT. DO THIS FOR TEN MINUTES.)

Activity 7d

1. Read pages 51-63 and 69-73 of Bateman's Essentials of Teaching.
2. As you read the chapter, list the principles mentioned in it that you think are used in sequence writing but are not on the composite list.
3. Rejoin the large group. Add the principles from your list to the composite list.

(HAND OUT ACTIVITY SHEET 7e. GIVE PARTICIPANTS TIME TO READ IT AND ASK QUESTIONS.)

Activity 7e

1. Listen to the lecture.
2. Write the principles mentioned in the lecture that you think are used in sequence writing but are not on the composite list.
3. Review your notes.
4. Rejoin the large group. Add the principles from your list to the composite one.
5. Review the composite list. Select those principles you think will be used most often when writing sequences.

(GIVE THE FOLLOWING LECTURE. IF THE PARTICIPANTS HAVE ALREADY ADDED THE PRINCIPLES MENTIONED IN THE LECTURE TO THE COMPOSITE LIST, ELIMINATE THEM FROM THE LECTURE. THIS MAY BE ESPECIALLY TRUE OF THE PRINCIPLES MENTIONED IN 42 AND 43.)

29. Sequences were written for use by:

    a. Volunteers
    b. Parents
    c. Peer tutors
    d. Student teachers
    e. Teachers

30. They were first written for volunteers and student teachers.

    a. Sequences were used to give relatively untrained personnel a structured plan to use to teach exceptional children.

        1) This is one reason why they are very specific.

31. When most people began using them they became very familiar with the format. They would follow the sequence like they would a script.

32. As they became more familiar with it, they would use it as a guide to refer to so

    a. they knew what step to do next.
    b. what to do if the child made a mistake on a certain step.
    c. to help them keep from cluttering up their verbal directions with unnecessary words, etc.

33. When people first started using a sequence, they would go through each step with the child.

    a. The goal is to eliminate some of the steps in the sequence when a child shows that he can learn what you're trying to teach him without all the steps being included.

34. For example, the sight word sequence has about 16 steps in it that the teacher goes through to teach one word. At first, she goes through all 16 steps with the child. Then she may start eliminating some steps.

35. When she begins to eliminate steps, it is important to keep track of the child's progress when he's going through the sequence.

    a. If he can learn a word at the 100% level and remember it without the inclusion of those steps, it was all right to eliminate them.

    b. If the elimination of steps means he only remembers the word at 80% level, she may want to ask herself if saving time is worth it.

36. Learning sequences are based on the assumption that children with learning problems need to be taught in an efficient way with much practice and chances to generalize what they have learned. They are based on the observation that when analyzing why a child failed in a program, it was most often due to

    a. the sequence of skills being out of order.
    b. too big a jump from one skill to the next. The objectives, or tasks, were not broken down into small enough steps.
    c. inadequate instructions.

37. They are based on the premise that you find out what the child needs to learn and teach it in a manner that is

    a. uncluttered
    b. broken into small steps
    c. accurate
    d. unambiguous
    e. doesn't rely on material the child has never learned.

38. Principles for writing sequences were taken from

    a. N. Dale Bryant's article, "Some Principles of Remedial Instruction" in the April 1965, Reading Teacher.

b. Siegel and Siegel's article, "Ten Guidelines for Writing Instructional Sequences" in the April, 1975, Journal of Learning Disabilities.

c. Barbara Bateman's The Essentials of Teaching.

39. Before reviewing with you some of these principles, I'd like to stress that not all the principles we will list on our composite list are used in every single sequence. Don't think you need to include all of them when you write a sequence.

40. Bryant mentions five principles in his article. The first is

a. Focus on one association at a time, such as one vowel sound, or one word.

1) Example:	This is A. This word is dog.	Not:	This is A. This is B. This word is dog. This word is ball.

b. Associative responses should be over-learned until automatic.

1) An example of such a response would be when a child can identify correctly a word within three seconds of its visual presentation. He can do that three times on three consecutive days with one hundred percent accuracy.

2) A response is not over-learned if the child identifies it correctly on the second try, or after one minute of looking at it or only eighty percent of the time.

c. Program the work so the child is correct in nearly all his responses.

1) Breaking your objectives into subtasks can help you achieve this.

d. The forth principle concerns programming two associations that might interfere with each other. For example, let's say you want to teach a child how to print "b" and "d", learn short vowel sounds or similar looking words like "want" and "went". Bryant suggests that you:

1) teach one association like the word "want" to automatic level so that it is over-learned.
2) teach the second association like "went" to automatic level.
3) review "want".
4) integrate "want" and "went" in such a way that the child deals only with the two associations.

a) For example, present each word - one to a card. Flash them and ask the child to say the word on the card correctly. At this point, you're asking the child to differentiate between two like stimuli for the first time but you've put nothing else on the card to confuse him like other words.

5) The last step is to put "want" and "went" in phrases and sentences. Use words in the phrases that he knows at the 100% level so you're testing only "want" and "went". Ask the child to read these phrases.

    a) The principle in effect here is teaching the child to identify a specific stimulus word from other words - some that are similar to the stimulus word and some that are different.

    b) It's one thing to ask a child to pick out the letter "b" from "s", "f", and "k". It is a much more difficult task to ask him to pick it out from "d", "p" and "q".

e. Review often is the last principle.

    1) Keep presenting like words so the child must pay attention to detail.

41. Any questions or comments about Bryant's principles?

42. Siegel and Siegel have several suggestions that are applicable to sequence writing.

    a. Like Bateman, they stress that the child must be ready for the sequence.

        1) If he doesn't have the prerequisite skills for completing the sequence, teach those to him first.

    b. Assume motivation is present.

        1) If you are teaching a child to ride a bike, don't include, for example, talks about transportation.

        2) The sequence should contain only the tasks necessary for the child to do to complete the objective.

        3) Too much attention to motivating the child often draws the teacher's attention away from the instructional task.

        4) Make the subtasks motivating in and of themselves.

            a) trace over the letter with a colored pencil
            b) make the letter out of clay

    c. Identify sequential subtasks.

        1) They expand Bateman's concept of this by saying there are continuums to follow. They suggest presenting tasks first:

        a) concretely and gradually move to the abstract
        b) simply and gradually move to the complex
        c) small initial doses to large doses, etc.

d. Avoid the "recipe" approach.

    1) After you have developed a sequence, don't think it is the recipe, or cure, for all children with all kinds of problems.

    2) Before using a sequence with a child, be sure it fits his needs. Ask yourself:

        a) does it fit his learning style?
        b) does it teach to his strongest channel?
        c) does it have all the prerequisite skills, etc.?

e. Use subtasks and not a variety of activities.

    1) The sequence is not just a list of activities.

        a) For example, if you want to teach a child sight words, you might want to do it like the sequence you read.

        b) You wouldn't just list a series of activities to do, such as play word bingo, play word lotto, etc.

f. Don't just present, teach.

    1) The only way you can tell if a child has learned is to have him do something. Don't have him sit there passively as you perform.

    2) However, don't expect him to do something without instruction.

        a) This is why the sequences you read have the teacher model the response first before asking the child to do it.

43. There are other principles not mentioned by these authors, but included in the sequences.

    a. Start with a behavioral objective.

        1) Be sure to include evaluation criteria, such as "The child will say the word correctly 4 out of 5 times within 3 seconds of its visual presentation."

    b. Determine how to teach the tasks.

        1) what modalities should be stressed?

        a) auditory?
        b) visual?
        c) tactile?
        d) multisensory?

c. What materials do you want to use to teach the subtasks?

    1) commercial or teacher made?
    2) what modality should they teach through? Should you pick a material that uses the

        a) auditory approach?
        b) visual approach?
        c) multisensory approach?

d. Subtasks should be stated in specific words, questions, etc., so the teacher and/or volunteer using it knows exactly what to say.

e. Each sequence teaches only one objective at a time.

f. Most sequences should provide for stimulus generalization.

    1) When using the sequences for letter sounds, the teacher first uses a card with the letter printed on it in black, then one with the letter printed on it in red, then a sandpaper letter, etc.

    2) This principle is especially important when teaching language concepts.

g. When teaching some skills, include a step where you try to increase the child's speed of responding.

    1) All of us have probably had the experience of working with a child that we become convinced is a "genius" because he does so much better than the rest of the children in our class. However, what often happened was that we forgot to compare his performance to what children in regular classrooms could do.

    Often the child may know the short vowel sounds but it may take him a minute or so to figure out which vowel had which sound. This length of time may differ a great deal from children in the regular class who know those sounds instantly.

    2) A sequence that includes a step where an attempt is made to increase the child's speed of response tries to overcome this potential problem.

44. Are there any principles mentioned in the lecture that you would like to add to the composite list?

(RECORD RESPONSES ON THE TRANSPARENCY).

45. Let's review the composite list and determine which ones are the most important. Not all will be used in every sequence, but some are used more often than others. Which ones do you think are the most important?

(STAR OR CHECK THOSE THE PARTICIPANTS MENTION. SOME OF THE MOST IMPORTANT PRINCIPLES ARE LISTED BELOW. IF THE PARTICIPANTS DON'T MENTION THEM, YOU MIGHT WANT TO POINT THEM OUT:

1. Use signal words to gain the child's attention.
2. Each sequence is written for the teacher to use with a child on a one-to-one basis.
3. Each sequence teaches one skill in an

    a. uncluttered
    b. unambiguous way

4. Task analysis is used.
5. Positive reinforcement is used.
6. Each sequence specifies certain entry skills.
7. Practice and repetition is included to insure retention.
8. Most are multisensory and allow for auditory, visual and tactile experiences.
9. Most provide for stimulus generalization.
10. Correction procedures are incorporated. If the child makes an error, the teacher is told what steps to repeat to recycle the child through the sequence.)

46. We're now going to practice writing learning sequences. In the next activity, we will ask you to choose a concept to teach and write a sequence for it using the principles on the composite list as a guide. We will then ask you to exchange your sequence with another group for a review and critique. Please find Worksheet 26.

47. Write your sequence to teach one of the short range behavioral objectives you wrote for Sally. Be sure your sequence fits the style that you think Sally uses to learn. In other words, be sure it incorporates the modifications you listed in the learning style column.

48. Remember that you can use as many or as few principles as you want in writing your sequence.

49. Any questions about this activity?

(HAND OUT ACTIVITY SHEET 7f)

Activity 7f

1. Form a dyad.
2. Find Worksheet 26 that was completed in Activity 6b.
3. Choose a short range behavioral objective that was written for a skill Sally could not do.
4. Write a sequence to teach that behavioral objective.
    a. Include the behavioral objective.
    b. Include the modifications listed in the Learning Style Column on Worksheet 20
    c. Use the principles on the composite list.

(AFTER ABOUT FORTY FIVE MINUTES, HAND OUT ACTIVITY SHEET 7g AND THE FEEDBACK SHEET, WORKSHEET 29.)

Activity 7g

1. Exchange sequences with another dyad.
2. Review the sequence using the criteria on the Feedback Sheet, Worksheet 29.
3. Return the sequence and the Feedback Sheet to the dyad.
4. Answer questions the dyad may have about your comments on the Feedback Sheet.

50. Exchange your sequence with another dyad. Review the sequence using the composite list of principles and the criteria on the feedback sheet. You'll have about fifteen minutes to do this.

(AFTER FIFTEEN MINUTES, CHECK TO SEE IF THE DYADS HAVE GIVEN BACK THE SEQUENCE THEY CRITIQUED AND HAVE ANSWERED ANY QUESTIONS ABOUT THE CRITIQUE THE OTHER DYAD MAY HAVE. IF NECESSARY, GIVE THE GROUP ABOUT TEN EXTRA MINUTES TO DISCUSS THE CRITIQUE.)

51. We're now going to try to gather more information about our learning sequences by role playing them.

(HAND OUT ONE COPY OF THE OBSERVATION CHECKLIST, WORKSHEET 30 TO EACH PARTICIPANT.)

52. We will be using these observation checklists during the role play activity. Please read the principles and see if you have any questions about them.

(GIVE THE PARTICIPANTS ABOUT FIVE MINUTES TO DO THIS. IF THERE ARE NO QUESTIONS, MENTION THE FOLLOWING:

1. Language was unambiguous (number 2) refers to clarity. The words used should be ones in the child's vocabulary.
2. Language was not cluttered (number 3) means that whenever the teacher talked to the child her language was simple and concise.
3. Immediate information about the child's response (number 5) means that immediately after the child does something he is told if he did in correctly or incorrectly.
4. Positive reinforcement was given (number 6) refers to rewards that are given to the child such as verbal praise, free time, etc.
5. Allows for practice sessions (number 9) means the material is repeated at different times so the child can practice his skills on many different occasions.

53. When you're completing the observation sheet, be sure to use specific examples of the behavior you see. Try to state what you see in observable terms.

(HAND OUT ACTIVITY SHEET 7h. HAVE AVAILABLE CONSTRUCTION PAPER, SCISSORS, TAPE AND MAGIC MARKERS SO PARTICIPANTS CAN PREPARE MATERIALS FOR THEIR ROLE PLAYS.)

Activity 7h

1. You and your partner should select another dyad that is not the one who critiqued your learning sequence.
2. Select 1 person from 1 dyad to teach their learning sequence.
3. Select 1 person from the other dyad to be the student.
4. Role play a lesson using the learning sequence.
5. The other 2 people will observe the role play using the observation sheet.
6. Discuss the role play using the information on the observation sheet.
7. Switch roles with one of the observers now teaching the second sequence and the other observer being the student.
8. The two previous role players observe using the observation sheet.
9. Discuss the second role play using the information on the observation sheet.
10. Return to your dyads and modify your learning sequences if appropriate.

54. Take about ten minutes to prepare materials you will need to role play your sequence.

(AFTER TEN MINUTES, REVIEW WITH THE GROUP THE SEQUENCE OF EVENTS FOR THIS ACTIVITY.)

55. Each dyad will have ten minutes to do the role play while two people observe. Then take another five to ten minutes for all four of you to discuss the observation sheet. Next, change places. Role play for another ten minutes and then discuss the observation sheet again. You'll have about thirty-five minutes to complete this activity. I will call time to let you know what activity you should be on.

(AFTER THE QUARTETS HAVE COMPLETED THE ACTIVITY, ASK THEM TO JOIN THE LARGE GROUP.)

56. Were any of you able to pinpoint any strengths or weaknesses of your sequences because of this activity?

(LIST ALL RESPONSES ON A TRANSPARENCY AND DISCUSS THEM.)

57. During the systematic inquiry module, it was mentioned that the degree of modification that you made in teaching the child a specific skill may affect his placement in a regular teaching situation. In looking at the sequences you have written as part of your prescriptive program, were you able to construct a sequence that could be used in a regular teaching situation? Did you have any problems doing this or can you see any problems doing this when writing other sequences? How much modification do you think is too much? In other words, how much can we ask the teacher to modify her teaching situation?

(DISCUSS THESE TOPICS FOR ABOUT FIFTEEN MINUTES.)

58. When you have time, you may want to modify your sequence based on what you have learned about it during the last activity. Modification is an important element of writing prescriptive programs. It will probably be necessary to modify each sequence so that it meets the learning needs of the child you want to use it with. How much it needs to be modified varies, of course, with the child.

(HAND OUT ACTIVITY SHEET 7i).

Activity 7i

1. Join the large group.
2. Do a task analysis of sequence writing.
3. Identify problems you may have had when writing a sequence.
4. Identify possible solutions to these problems.

59. Our objective is to write learning sequences. What tasks must we do to reach that objective?

(RECORD RESPONSES. A POSSIBLE TASK ANALYSIS MIGHT BE:

1. Attend to the task.
2. Write a behavioral objective.
3. Task analyze the behavioral objective.
4. Write the entry level skills.
5. Write the tasks in a script form using selected learning principles.
6. Re-check for more entry level skills.
7. List materials to use when teaching the sequence.
8. List the schedule the instructor should use when teaching the sequence.
9. Teach the sequence.
10. Modify it if necessary.)

(PUT A TRANSPARENCY LIKE THE FOLLOWING ON THE OVERHEAD: PROBLEMS | SOLUTIONS.)

60. Let's list any problems you had with sequence writing and possible solutions for them.

(RECORD ALL RESPONSES. IF NECESSARY, RE-STATE THE SUGGESTIONS SO THEY ARE AS CLEAR AND SPECIFIC AS POSSIBLE.)

(ONE OF THE MOST FREQUENTLY MENTIONED PROBLEMS WILL BE LACK OF TIME. IF THE FOLLOWING SOLUTIONS AREN'T MENTIONED BY THE PARTICIPANTS, THE FACILITATOR SHOULD MENTION THEM:

1. Save sequences. They may need to be modified only slightly for other children.
2. Start a central file of sequences. When a teacher writes one, she puts a copy of it in the file so others may also use it.)

Learning Methods

Activity Sheet 7a

1. In dyads, list your short range objectives for Sally on Worksheet 27.
2. Brainstorm and list at least 3 methods to accomplish each objective.
3. Discuss your results with a facilitator.
4. At this time, ignore the "Materials" column.

Learning Methods

Activity Sheet 7b

1. In dyads, list the methods you would use to reach your objectives on Worksheet 28.
2. List the reasons why each method might work.
3. List the reasons why each method may not work.
4. List at least one way you could solve the reasons why the method might not work.

Activity 7c

1. Read two learning sequences.
2. From a triad.
3. Review the sequences and list the teaching principles found in them.
4. Join the large group and develop a composite list of principles used in sequence writing.

Activity 7d

1. Read pages 51-63 and 69-73 of Bateman's The Essentials of Teaching.
2. As you read the chapter, list the principles mentioned in it that you think are used in sequence writing but are not on the composite list.
3. Rejoin the large group. Add the principles from your list to the composite list.

Activity 7e

1. Listen to the lecture.
2. Write the principles mentioned in the lecture that you think are used in sequence writing but are not on the composite list.
3. Review your notes.
4. Rejoin the large group. Add the principles from your list to the composite one.
5. Review the composite list. Select those principles you think will be used most often when writing sequences.

Activity 7f

1. Form a dyad.
2. Find Worksheet 26 that was completed in Activity 6b.
3. Choose a short range behavioral objective that was written for a skill Sally could not do.
4. Write a sequence to teach that behavioral objective.
    a. Include the behavioral objective.
    b. Include the modifications listed in the Learning Style Column on Worksheet 20.
    c. Use the principles on the composite list.

Activity 7g

1. Exchange sequences with another dyad.
2. Review the sequence using the criteria on the Feedback Sheet, Worksheet 29.
3. Return the sequence and the Feedback Sheet to the dyad.
4. Answer questions the dyad may have about your comments on the Feedback Sheet.

Activity 7h

1. You and your partner should select another dyad that is not the one who critiqued your learning sequence.
2. Select 1 person from 1 dyad to teach their learning sequence.
3. Select 1 person from the other dyad to be the student.
4. Role play a lesson using the learning sequence.
5. The other 2 people will observe the role play using the observation sheet.
6. Discuss the role play using the information on the observation sheet.
7. Switch roles with one of the observers now teaching the second sequence and the other observer being the student.
8. The two previous role players observe using the observation sheet.
9. Discuss the second role play using the information on the observation sheet.
10. Return to your dyads and modify your learning sequence if appropriate.

Activity 7i

1. Join the large group.
2. Do a task analysis of sequence writing.
3. Identify problems you may have had when writing a sequence.
4. Identify possible solutions to these problems.

Worksheet 27
(Use in Activity 7a)

Learning Methods

What are all the possible methods (e.g., multisensory approach, one-to-one vs. group instruction, games, etc.) for accomplishing each objective?

OBJECTIVE	METHODS	MATERIALS

Learning Methods

Worksheet 28
(Use in Activity 7b)

Is this method workable?

	Reasons		
METHOD	YES	NO	WAYS TO SOLVE

Have you identified any workable methods?

Yes ____ No _____

Feedback Sheet

Worksheet 29
(Use in Activity 7g)

1. Does this sequence teach the objective it was designed to teach?

   ______Yes ______No

   Comments.

2. List the principles used in this sequence.

3. Were some principles omitted that should not have been?

   ______Yes ______No

   If yes, which ones and why should they have been included?

4. List the outstanding features of the sequence and suggestions for improvement you may have.

OBSERVATION CHECKLIST

for

LEARNING SEQUENCES PACKET

Worksheet 30
(Use in Activity 7h)

1. Observe the role play.
2. Check which of the following principles were used in the sequence being role played.
3. For each principle you check, write a specific example of the behavior you observed which showed you that principle was being used.
4. Discuss the role play with the other observer and "actors" using the information on the sheet.

Principles	Examples of Behavior
1. Used attention getting cue words and/or signals	
2. Language was unambiguous	
3. Language was not cluttered with extraneous words and/or information	
4. Material in the presentation was accurate	

Observation Checklist for Learning Sequences Packet - CONT.

5. Immediate information about the child's response was provided (if it was correct or not).

6. Positive reinforcement was given.

7. The tasks were broken down into small enough subtasks.

8. The tasks were sequenced correctly.

9. Allows for practice sessions.

10. Allows the child to practice using different stimuli (transfer of training).

11. Focuses on one association at a time.

12. Allows the teachers to model the correct response for the child.

Observation Checklist for Learning Sequences Packet - CONT.

13. Presents material to the child through different modalities - visual, auditory, tactile, etc.

14. Allows the child to respond through different modes, - verbal, motor, gesture.

15. Other.

ANSWER THE FOLLOWING:

1. Did the "child" appear confused and unable to follow directions at any time?

2. Did the "child" appear to lose interest in the lesson because the steps in it were too small?

(Use in Activity 7)

HOW TO SUCCEED . . . .

Once upon a time the animals had a school. The curriculum consisted of running, climbing, flying, and swimming, and all the animals took all the subjects. The duck was good in swimming; better in fact, than his instructor. He made passing grades in flying but he was particularly hopeless in running. Because he was low in this subject he was made to stay in after school and drop his swimming class in order to practice running. He kept this up until he was only average in swimming. But average was acceptable so nobody worried about that except the duck. The eagle was considered a problem pupil and was severely disciplined because, although he beat all the others to the top of the tree in climbing class, he insisted on using his own method. The rabbit started out at the top of the class in running but he had a nervous breakdown and had to drop out of school because of so much makeup work in swimming. The squirrel led the class in climbing, but his flying teacher made him start his flying lessons from the ground up instead of from the top of the tree down. He developed charley horses from over-exertion at the takeoff and began getting C's in climbing and D's in running. The practical prairie dogs apprenticed their offspring to the badger when the school authorities refused to add digging to the curriculum. At the end of the year, an abnormal eel that could swim well, run a few feet, climb a bit, and fly a little was made valedictorian. (A fable, author unknown).

(Use in Activity 7c)

SEQUENCE FOR TEACHING THE CONCEPT MORE

OBJECTIVE: To teach the child to demonstrate the concept of "more" by identifying sets of objects with "more" properties 100% of the time.

SKILLS THE CHILD NEEDS TO COMPLETE THE SEQUENCE SUCCESSFULLY:

The child must:

1. Talk.
2. Respond to oral directions.
3. * Demonstrate an understanding of one-to-one correspondence for the numbers 1 to 15.
4. * Count orally to 15.
5. Have enough fine motor control to make pencil marks.

* Entry skills 3 & 4 can be modified depending on the child's understanding of one-to-one correspondence and his ability to count orally. Step 22 is especially affected by the limit set in skills 3 & 4. Therefore, if skills 3 & 4 say the child must demonstrate an understanding of one-to-one correspondence for numbers 1 - 15 and orally count to 15, be sure to use no more than 15 objects in Step 22.

INSTRUCTOR NOTES: It is best to use sets of objects of many different quantities when teaching this sequence. The child may have trouble generalizing the concept of "more" if you teach it using only a few numbers.

For example, if he knows only one-to-one correspondence for the numbers 1 & 2, and how to count orally only for numbers 1, 2 & 3, he may not be able to generalize the concept to numbers above 2 or 3.

However, if the child does know one-to-one correspondence and how to count orally for only a few numbers when you teach the concept, compensate for it by reviewing "more" as he learns one-to-one correspondence and oral counting for more numbers.

SUGGESTED SCHEDULE:

Day I: Steps 1-9.
Day II: Steps 9-18 (if fails 9, repeat steps 1-9).
Day III: 18-29 (if fails 18, repeat steps 1-18).
Day IV: 29-41 (if fails 29, repeat steps 1-29).
** Day V: 41-44 (if fails 41, repeat steps 1-41).

** Steps 42-44 must be completed with 100% accuracy. Repeat them until they are completed with 100% accuracy if the child appears to understand the concept but made a mistake due to carelessness, lack of attention, etc.

If the child cannot complete steps 42-44 with 100% accuracy because he does not understand the concept, repeat the whole sequence.

MATERIALS:

1. 2 boxes.
2. Cards on which to write numbers (about 2" by 2").
3. Pencil.
4. 5 sets of objects (sometimes you might want to use candy for the objects and then give them to the child to eat if he does a step correctly).
5. Worksheets.
6. 3 x 5 index card.

(Use in Activity 7c)

SEQUENCE FOR TEACHING THE CONCEPT

MORE

1. "Listen. Let's count what's in this box together. (Point to box.) One. This box has 1 thing in it." (Write the number 1 on a card and put it next to the box.)

2. "Let's count again. (Point to box.) One. Right. How many things are in the box?"

3. "Listen. Let's count this box. (Point to second box.) One, two. This box has 2 things in it." (Write the number on a card and put it next to the box.)

4. "Let's count again. (Point to box.) One, two. Right. How many things are in this box?"

5. "Listen. This box (point to the one with more) has more things in it than this one (point to other box). If I gave you the box with more things in it, I would give you this one (pick up and give to child).

6. "Listen. Which box has more things in it? Right. This one has more in it."

7. (Empty boxes and take away number cards. Put one new object in the box that had 2 objects before. Put 2 new objects in the other. Use different objects than in steps 1-6). "Listen. Let's count what's in this box together. One, two. This box has two things in it." (Put number card next to box.)

8. "Listen. Let's count what's in this box (point to it). 1. This box has 1 thing in it." (Put number card next to it.)

9. "Listen. This box (point to one with more) has more in it than this one (point to other box). If you wanted the box with more in it, which would you take?"

IF MISTAKE, REPEAT 1-9.

10. "Listen. Let's count what's in this pile (have 9 objects, different ones from what was used before, in a pile on the desk). Right. This pile has 9 things in it (write the number 9 on a card and put it next to the pile).

11. "Let's count again. How many things are in this pile?"

12. "Listen. Let's count how many are in this pile (have 10 objects different from what was used before, in a pile on the desk). Right. This pile has 10 things in it." (Write the number on a card and put it next to the pile.)

13. "Let's count again. How many things are in this pile?" "Right."

14. "Listen. This pile (point to the one with more) has more things in it than this one (point to other pile). If I gave you the pile with more things in it, I would give you this one (point to it).

15. "Listen. Which pile has more in it? Right. This one has more." (Point to it.)

16. (Take away objects and number cards. Put 9 new objects in the place where the pile with 10 objects was before. Put 10 new objects in the other place. Use different objects than used before.) "Listen. Let's count what's in this pile together. Right. This pile has 10 things in it." (Put number card next to it.)

17. "Listen. Let's count what's in this pile. (Point to it.) Right. There are nine things in it." (Put number card next to it.)

18. "Listen. This pile (point to the one with more) has more in it than this one (point to other pile). If you wanted the pile with more in it, which would you take?"

IF MISTAKE, REPEAT 1-18.

19. (Put 13 objects in one box. Make them an assortment of the different objects used before--a few pencils; some beans, etc.) "Listen. Let's count how many are in this box. Right. There are 13 things in this box." (Put a number card next to it.)

20. "Listen. Now count how many are in this box." (Put 15 objects in the box. Make them an assortment of previously used objects.) Right. This box has 15 things.

21. "Which box has more?".

IF MISTAKE, REPEAT STEPS 1-21.

22. "Listen. You make two piles of things. Put more in one pile than in the other."

23. (After the child has done 22.) "Listen. Count how many are in this pile." (After he has counted, put the number on a card and put it by the pile.)

24. "Listen. Count how many are in this pile." (Point to the second pile. After he has counted, put the number on a card and put it by the pile.)

25. "Which pile did you put more things in? Good."

26. "Listen. Draw some things in this box (point to it on worksheet) and some in this (point to it on worksheet). Put more in one box than the other."

27. "Listen. Count how many you drew in this box." (Print in the number above the objects if the child can't.)

28. "Listen. Count how many are in this box." (Print in the number above the objects if the child can't.)

29. "Which box did you put more in? Right."

30. "Listen. Here's a worksheet. (Present a worksheet with three rows of problems--two boxes of objects in each row.) The boxes have things drawn in them. Let's find out which of the two boxes in the first row has more."

31. "Count how many are in the first box." (Print the number the child counts if he can't.)

(Use in Activity 7c)

32. "How many are in the second box?" (Print the number the child counts if he can't.)

33. "Which box has more? Right."

IF THE CHILD MISSES, REPEAT STEPS 26-33.

34. "I'll show you another way to find which has more. Draw a line from every picture in the first box to everyone in the second box. Which box has one picture left over? Yes. Is that the same box that had more? Yes, it is."

35. "Listen. One way to find which box has more is to count. Another way is to draw lines and see which box has some pictures left over."

36. "Listen. Do the second row. First count and tell me which box has more."

37. "Good. Now draw lines between the pictures and tell me which box has more."

38. "Good. Now count the things in the boxes in the third row. Tell me which box has more."

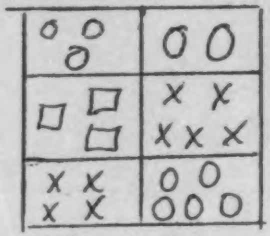
39. "Good. Now draw lines between the pictures and tell me which box has more."

40. (Put out two boxes. Put ten objects in one and six in the other.) "Listen. Count and tell me which box has more."

41. (Put out two piles of objects. Put thirteen objects in one and fourteen in the other.) "Listen. Count and tell me which pile has more."

42. (Give the child a worksheet. Example:)

"Listen. In the first row, mark the box that has more. In the second row, mark the box that has more. In the third row, mark the box that has more."



43. (Give the child a 3X5 card.) "Listen. Draw a line down the middle of the card so there are two boxes. Draw something in each box. Make one box have more than the other."

44. (After he's finished...) "Draw line between the pictures in one box and the other. Put an X on the box with more. (You print the word more on the top and save the card with other concept cards. Review by showing the card and asking the child which box has more.)

(Use in Activity 7c)

TEACHING PICTURE SIGHT WORDS

When teaching this sequence, present the word with a picture depicting it. For example, use Dolch Picture Word Cards, real objects with a word card attached to them or magazine pictures with the word written on them.

1. (Point to the picture word card.) "Listen. This word is _______."
2. "Listen." (Point to the word.) "__________."
3. "Say it with me. ___________."
4. "Listen. Say it again. __________."
5. (Leave the word card in front of the child. Give him sandpaper or glue letters.) "Make the word ____________ using these letters."
6. "Good. The word is _____________."
7. "Listen. Trace the sandpaper word with your fingers three times. Say it each time you trace it."
8. "Listen. What is the word?"

IF HE MISSES, REPEAT 1-8.

9. (Give the child a piece of paper with the word printed on it.) "Listen. Here's the word on paper. Trace over it with your finger two times. Say the word as you trace."
10. "Listen. What is the word?"

IF HE MISSES, REPEAT 1-10.

11. "Listen. Trace the word three times with your pencil. Say __________ as you do so."
12. "Listen. What is the word?"

IF HE MISSES, REPEAT 1-12.

13. (Show the word card with no picture attached.) "Listen. What is the word?"

IF HE MISSES, REPEAT 1-13.

14. "Listen. Think of a sentence with the word in it. Tell it to me and I'll print it. Now, you read it to me." (Help him read the words if he needs it. Don't help him with the word he's studying. If he misses it, repeat 1-14.)
15. "Listen. Print the word on this card." (Give him a 3x5 card.) (When he is printing the word on the card, he may look at a word card and copy from it. Use a word card without a picture, however. This step may be omitted if the child is unable to print the word well enough so it is recognizable later. If you do omit it because of this, substitute the following: "Listen. What is this word?" Show him the word printed on a 3 x 5 card with no picture attached. SAVE THE 3 x 5 CARDS AND EACH DAY REVIEW ALL WORDS PREVIOUSLY TAUGHT BEFORE TEACHING HIM A NEW ONE.)
16. (Point to the 3 x 5 word card.) "Listen. What is this word?"

WORKSHOP TRAINING KIT

POLAR ALGEBRA

Primary Author

Ted Ward

USOE/MSU REGIONAL
INSTRUCTIONAL MATERIALS CENTER
FOR HANDICAPPED CHILDREN AND YOUTH

POLAR ALGEBRA

--LEADER'S GUIDE--

OVERVIEW

POLAR ALGEBRA is a workshop activity that is designed to:

- --demonstrate what it feels like to have a learning problem.
- --demonstrate alternative instructional approaches that can be used with someone that has a learning problem.

Participants are shown a mathematical problem and asked to solve it using the "rules of Polar Algebra." Almost all of the participants will have difficulty solving the problem. Each participant then is asked to select one of four instructional approaches to assist in remediating the problem. Following the remediation they are presented with another problem. There will still be some participants who will have difficulty with this new problem. Once again, remediation is provided. Finally, a last problem is provided and almost everyone will get it correct. The activity concludes with a discussion period.

OBJECTIVES

Through the activity the participant will

- --experience what it feels like to have a learning problem.
- --have an opportunity to select a preferred remedial approach.

At the conclusion of the activity the participant will

- --be able to list four different remedial approaches that can be used with children who have learning problems.
- --be able to relate the feelings of a learner who is experiencing learning problems.

PREREQUISITES

There are no special prerequisites for either the leader or participants to successfully participate in this activity. However, the leader should become very familiar with the rules of Polar Algebra prior to the activity.

TIME NEEDED

The entire activity takes approximately one hour.

Introduction	5 minutes
Problem #1	5 minutes
Remediation	10 minutes
Problem #2	5 minutes
Remediation	10 minutes
Problem #3	2 minutes
Discussion	20 minutes

MATERIALS NEEDED

1. TO BE DUPLICATED:

All pages to be duplicated are marked "Duplicator Page #__" in the upper right hand corner. Use the pages in this kit so marked as masters. The pages marked "Transparency Page #__" should be used as masters to process overhead transparencies.

--Step-Wise Approach	Duplicator Pages 1-4
--Independent Investigation	Duplicator Page 5
--Rules of Polar Algebra	Duplicator Page 6
--Learning Through Observation	Duplicator Page 7

NOTE: You will need a quantity of each of these handouts (Duplicator Pages 1-7). Since, however, participants will select which one they want, it will be impossible to know in advance how many to prepare. Make sure you have enough!

ONE FOR EACH PERSON:

--Content Evaluation Form	Duplicator Page 8
--Workshop Evaluation Form	Duplicator Page 9

2. OTHER MATERIALS:

--Problem #1	Transparency Page 1
--Optional Instructional Approaches	Transparency Page 2
--Problem #2	Transparency Page 3
--Problem #3	Transparency Page 4
--Envelopes for Duplicator Pages 1-7 (Label each envelope according to what instructional approach it contains--Step-Wise Approach, etc.)	
--Overhead projector	

PHYSICAL ARRANGEMENTS NEEDED

Movable chairs set up in an auditorium arrangement is okay, but tables and chairs is preferable. If tables are used, four participants per table is advisable. It is important to have flexible seating for this activity to allow participants to change seats if needed.

PROCEDURE

1. If you will be using a pre-test (Content Evaluation), you should administer it at the very beginning.

2. Briefly describe the activity:

   "During this activity you will have an opportunity to experience what it feels like to have a learning problem. You will also have an opportunity to work through your problem. I am going to show you a transparency that will demonstrate a problem that has been solved according to the rules of Polar Algebra. I will then ask you to solve a Polar Algebra problem."

3. Project Transparency #1 (cover the bottom part with a piece of paper).

   "Solve this problem according to the rules of Polar Algebra. You may use a piece of paper to help in your computations."

   (Allow 3 or 4 minutes)

   Call for participants to tell their answers.

4. Uncover the answer.

   "How many got the problem right?"

5. Project Transparency #2.

   "You will now have an opportunity to select the manner in which you will receive instruction in Polar Algebra. Examine these four options and select the option you would like to use for receiving instruction."

   Read through the four options with the participants.

6. Hand out to each participant an envelope with the type of instruction that participant would like to receive. (Duplicator Pages 1-7)

7. Allow about 10 minutes for individual instruction.

8. Briefly discuss the four different options and the participants' reactions to them.

9. Introduce next problem:

   "Now you have had a chance to better understand the rules of Polar Algebra. Let's see if you are able to do the next problem."

10. Project Transparency #3 (cover the bottom part with a piece of paper).

    "Solve this problem according to the rules of Polar Algebra."

    NOTE: The participants do NOT realize that a verticle line means "subtraction." The problem is easy to solve if turned on its side and treated as a normal subtraction problem.

    Allow 3 or 4 minutes.

    Call for participants to tell their answers.

11. Uncover the answer.

    "How many got the problem right?"

    At this point, assign those that got the problem correct as "teacher assistants" to help those that didn't get it correct. Have the assistants first ask their "students" to specify how they would like to receive instruction. Then, the assistants should provide instruction in that manner.

    Allow about 10 minutes for instruction.

12. Briefly discuss the instructional procedures that the assistants used.

13. Introduce the last problem (project Transparency #4 with the bottom part covered).

    By now everyone should be able to solve the problem.

14. Conduct a group discussion of the activity.

15. Post test (see the last pages of this guide for content evaluation and workshop evaluation forms).

DISCUSSION GUIDE

There are two different topics that you should probe during the discussion. The following questions should assist in your discussion of the activity.

Topic 1 - The feelings associated with having a learning problem.

"What kinds of feelings did this activity promote?" (i.e., frustrated, annoyed, challenged, belittled, etc.)

"Why did the activity promote these feelings?" (Didn't know the rules at the beginning, went too fast, saw others being successful, etc.)

"How are these feelings similar to the feelings of a child with a learning problem?"

"What can be done to assist in alleviating the negative feelings?"

Topic 2 - Optional procedures for instructing children with learning problems.

"How did you like the opportunity of having optional instructional approaches that you could select?"

"Did the optional instructional approaches assist you in learning?"

"How can optional approaches be used successfully in the classroom with a child who has a learning problem?"

EVALUATION

Two forms are provided which can be used to help you gather data on content learning and the workshop activity itself. On the content evaluation form we have included in italics those answers most frequently occurring during our field testing of the kit. Perhaps they will assist you to evaluate your workshop responses.

PROBLEM #1

THIS PROBLEM IS CORRECT ACCORDING TO THE RULES OF POLAR ALGEBRA

$$\begin{array}{cccc} 8 & 7 & 8 & 7 \\ \hline E & 2 & G & 1 \\ E & F & C & G \end{array}$$

SOLVE THIS PROBLEM

$$\begin{array}{c} \boxed{?} \\ \hline G \\ D \end{array}$$

WRITE YOUR ANSWER ON A SHEET OF PAPER

THE ANSWER IS $\boxed{9}$

OPTIONAL INSTRUCTIONAL APPROACHES

YOU HAVE FOUR OPTIONS FOR RECEIVING INSTRUCTION IN HOW TO SOLVE THIS POLAR ALGEBRA PROBLEM.

OPTION #1—STEP-WISE APPROACH
Programmed Instructional Sequence

OPTION #2—INDEPENDENT INVESTIGATION
Using Prior Learning in an Unstructured Setting

OPTION #3—THE RULES OF POLAR ALGEBRA

OPTION #4—LEARNING THROUGH OBSERVATION
Watching How Others Learn

PROBLEM #2

THIS PROBLEM IS CORRECT ACCORDING TO THE RULES OF POLAR ALGEBRA.

6	1	5
2	6	6
5	2	2
4	4	0

SOLVE THIS PROBLEM

6	3	$\boxed{?}$

WRITE YOUR ANSWER ON A SHEET OF PAPER

THE ANSWER IS $\boxed{3}$

PROBLEM #3

THIS PROBLEM IS CORRECT ACCORDING TO THE RULES OF POLAR ALGEBRA.

G	5	1
C	G	6
E	2	1
D	D	A

SOLVE THIS PROBLEM

F	D	$\boxed{?}$

WRITE YOUR ANSWER ON A SHEET OF PAPER

THE ANSWER IS $\boxed{2}$ OR $\boxed{C}$

STEP-WISE APPROACH

You have elected to use a *Step-Wise Approach* (Sequenced Approach) to learning Polar Algebra. In this step-wise approach you will be presented a programmed instructional sequence to assist you in learning the basics of Polar Algebra. Go through each step in order. Do not omit steps. Make sure you have completed each step correctly before going to the next step. The answer for each problem in the instructional program is given at the top of the page directly following the problem.

Good luck!

P.S. Please leave your envelope face up on the table.

PROBLEM #1

$D + D = 6$
$E + E = 8$
$F + F = 10$
$G + G = \boxed{?}$

ANSWER TO PROBLEM #1

$G + G = \boxed{12}$

PROBLEM #2

$D + 3 = 6$
$E + 4 = 8$
$F + 5 = 10$
$G + 6 = \boxed{?}$

ANSWER TO PROBLEM #2

$G + 6 = \boxed{12}$

ANSWER TO PROBLEM #3

$B + E = \boxed{5}$

ANSWER TO PROBLEM #4

$A + D = \boxed{3}$

PROBLEM #3

$B + B = 2$
$B + C = 3$
$B + D = 4$
$B + E = \boxed{?}$

PROBLEM #4

$A + A = 0$
$A + B = 1$
$A + C = 2$
$A + D = \boxed{?}$

PROBLEM #5

$B + C = 3$

-OR-

$$\begin{array}{c} 3 \\ \hline B \\ C \end{array}$$

$C + C = 4$

-OR-

$$\begin{array}{c} \boxed{?} \\ \hline C \\ C \end{array}$$

ANSWER TO PROBLEM#5

$$\frac{\boxed{4}}{\begin{matrix}C\\C\end{matrix}}$$

ANSWER TO PROBLEM #6

$$\frac{\boxed{5}}{\begin{matrix}C\\D\end{matrix}}$$

ANSWER TO PROBLEM #7

$$\frac{\boxed{6}}{\begin{matrix}D\\D\end{matrix}}$$

PROBLEM #6

$$\frac{\boxed{?}}{\begin{matrix}C\\D\end{matrix}}$$

PROBLEM #7

$$\frac{\boxed{?}}{\begin{matrix}D\\D\end{matrix}}$$

PROBLEM #8

$$\frac{\boxed{?\qquad ?}}{\begin{matrix}D & C\\D & D\end{matrix}}$$

ANSWER TO PROBLEM #8

$$\begin{array}{cc} \boxed{6 \qquad 5} \\ \hline \mathrm{D} \qquad \mathrm{C} \\ \mathrm{D} \qquad \mathrm{D} \end{array}$$

ANSWER TO PROBLEM #9

C = $\boxed{2}$

2 = $\boxed{C}$

PROBLEM #9

A = 0

0 = A

B = 1

1 = B

C = $\boxed{?}$

2 = $\boxed{?}$

PROBLEM #10

NOW TRY THE ORIGINAL PROBLEM

INDEPENDENT INVESTIGATION

You have elected to use an *Independent Investigation* approach to learning Polar Algebra. Use your time as you feel will be most beneficial. Work independent of the other learners. You may want to find a quiet corner.

Good luck!

P.S. Please leave your envelope face up on the table.

RULES OF POLAR ALGEBRA

You have elected to use the *Rules of Polar Algebra* to help you learn Polar Algebra. The rules for Polar Algebra are:

Rule #1 Each letter of the alphabet has a digital value. A = 0, B = 1, C = 2, D = 3, etc.

Rule #2 In Polar Algebra the adding is done upward.

Rule #3 The sum of adding is shown above the horizontal line.

Rule #4 Numbers and letters may be mixed.

Rule #5 Above the letter "G" only numerals are used.

P.S. Please leave your envelope face up on the table.

LEARNING THROUGH OBSERVATION

You have elected to learn Polar Algebra by *Learning Through Observation*. You may move freely about the room and observe how others are learning. You may ask questions of the other learners, but try to *limit your interaction* since they are also trying to learn.

Good luck!

P.S. Please leave your envelope face up on the table.

___ Pre ___ Post

CONTENT EVALUATION FORM

1. List four optional instructional procedures that can be used with a child who is having a problem learning how to multiply.

____

____

____

____

____

2. What feelings does a child with a learning problem usually have when confronted with a difficult problem?

Answers to Duplicator Page #8

___ Pre Post

CONTENT EVALUATION FORM

1. List four optional instructional procedures that can be used with a child who is having a problem learning how to multiply.

Provide rules

Provide step-by-step programmed instruction

Allow independent investigation

Allow learners to watch other learners

Provide drill and practice

2. What feelings does a child with a learning problem usually have when confronted with a difficult problem?

--frustrated

--annoyed

--belittled

--bewildered

--etc.

WORKSHOP EVALUATION FORM

1. The experience was:

   ___ a) worth the time spent

   ___ b) too long

   ___ c) too short

2. Do you think you were adequately prepared for the material presented?

   ___ Yes ___ No If no, explain.

3. How does this workshop experience enhance the skills of a teacher of children with learning problems?

Activity Notes for Summarizing the Behavioral Objectives & Learning Methods Modules

(PUT A TRANSPARENCY OF WORKSHEET 26 ON THE OVERHEAD. HAVE THE GROUP COMPLETE IT WITH YOU.)

1. Let's quickly complete this worksheet. Who can suggest a long range objective?

(RECORD THE RESPONSE)

2. What would be a Task Analysis of it?

(RECORD THE RESPONSE)

3. Looking at this Task Analysis, who can suggest a short range objective that corresponds to the long range one?

(RECORD THE RESPONSE)

4. Let's task analyze the short range objective.

(RECORD THE RESPONSE)

(PUT A TRANSPARENCY OF WORKSHEET 27 ON THE OVERHEAD)

5. On this worksheet, we wrote our short range objectives and listed methods we might use to reach the objective. We said a method was the how to teach materials and programs are the what to teach.

(PUT A TRANSPARENCY OF WORKSHEET 28 ON THE OVERHEAD)

6. On this worksheet, we considered the feasibility of the methods you had listed on the previous worksheet. We went through the process of identifying reasons why each method might work, reasons why it might not and ways to solve the reasons why it might not.

7. This gave us some information to use when deciding what method to use.

8. Then we reviewed the many principles that made up a process called directive teaching. We applied these principles when writing learning, or instructional, sequences. These sequences could form the basis of a prescriptive program.

9. We are now two-thirds of the way through with the modules that teach prescriptive programming techniques. We have written behavioral objectives for a child and selected methods to use to reach those objectives. Now we are ready to choose educational materials that we can use to implement our methods and accomplish our objectives.

Facilitator Notes for Task Analysis of Materials

Educational materials for the participants to task analyze must be provided for this module. At least one educational material per participant should be available. The participants will task analyze the materials in dyads so each will task analyze two materials.

Some materials should be those that could be used to teach the example child the skill he is having problems with. In the case of Sally, materials to teach beginning and ending sounds would be introduced.

A variety of materials such as basal tests, reading and math kits, educational games, flashcards and so forth should be provided. They should be those commonly used by the workshop participants in their teaching. If the materials are kits or series that contain more than one lesson, participants should be asked to task analyze only one of the lessons.

Objective of the Module

1. The participants will break educational materials into their component subtasks and record their task analyses on the Recording Sheet with 85% accuracy.

Materials Needed for the Module

Facilitator Materials

- Activity Notes
- 1 educational material to task analyze for the demonstration
- 1 transparency of Recording Sheet 31
- blank transparencies
- overhead
- marking pens

Participant Materials

- 1 Activity Sheet 8a per participant
- 1 educational material per participant
- 1 Recording Sheet 31 per participant

Time Needed to Complete the Module

Approximately forty-five minutes will be needed to complete this module.

Activity Notes For Task Analysis Of Materials

1. We have looked at task analyses of self-help skills, academic worksheets and tests. Now we'd like to apply the process of task analysis to materials.

2. Let's remember that when we do a task analysis we:

    a. Isolate, describe and sequence the subtasks needed for the child to complete the task.

    b. We describe the subtasks in observable terms.

    c. We use an action verb and object such as "draw" and "a card."

3. Task analyzing materials can give you information about their sequence of tasks. You can discover if skills and concepts are presented in an order you think is correct. It can also help you if a child is having trouble playing an educational game or using a particular material. You can find out what subtasks the child must be able to do in order to play the game or use the material.

4. When you are doing a task analysis of a material it is important to remember that some materials are composed of a variety of lessons and activities. Doing a task analysis of one of these lessons is not a task analysis of the entire program. That would consist of a list of many task analyses.

5. Let's look at the game Quizmo and do a task analysis of it. For this demonstration, I will specify these rules: it is a small group. Each child draws a card and marks the Quizmo card.

6. The task analysis would be:

    a. Attends to the card.

    b. Demonstrates an understanding of the key words in the directions (mark the answer, draw a card).

    c. Draws a card.

    d. Identifies the numbers on the card.

    e. Identifies the operation symbols: +, -, =, .

    f. Says the fact.

    or

    g. Matches the quantity to the symbol.

        a. Counts by ones.

        b. Partial counts.

h. Matches the answer to a number on the card.

i. Marks the number.

7. This task analysis would apply every time the game was played with the rules I specified. If I stated that a caller would say the fact on the card, the task analysis would be altered.

(HAND OUT ACTIVITY SHEET 8a AND RECORDING SHEET 31.)

Activity Sheet 8a

1. Choose a partner.
2. Select two educational materials.
3. If you choose a material that contains many different lessons in it, select one representative lesson to task analyze.
4. Isolate, describe and sequence the subtasks of each material.
5. Write your subtask on a recording sheet.
6. Discuss your results with a facilitator.

Task Analysis of Materials

Activity Sheet 8a

1. Choose a partner.
2. Select two educational materials.
3. If you choose a material that contains many different lessons in it, select one representative lesson to task analyze.
4. Isolate, describe and sequence the subtasks of each material.
5. Write your subtasks on a recording sheet.
6. Discuss your results with a facilitator.

Task Analysis of Materials

Recording Sheet 31
(Use in Activity 8a)

Material Name: ______________________________

Material Name: ______________________________

Facilitator Notes for
Matching Learner Characteristics with Material Characteristics

This module presents a method of evaluating educational materials to determine if they match a child's learning characteristics.

Stress to participants that evaluating and selecting materials is the last stage of the prescriptive programming process. The material chosen must be consistent with the objectives written for the child and the methods selected to meet those objectives.

One educational material per participant should be provided. These should be the same ones that were used in the Task Analysis of Materials module.

The participants may evaluate the materials they task analyzed or do different ones.

The discussion of the materials at the end of the module can be very beneficial. During it, participants can become exposed to the values of many different materials.

Objectives of the module

1. The participants will read the booklet Evaluating and Selecting Instructional Materials for Specified Learners, pages 1-11.
2. The participants will evaluate two educational materials, and decide if the characteristics match the characteristics of a given learner, with 100% accuracy using the criteria outlined on Worksheet 32.

Materials Needed to Complete the Module

Facilitator Materials	Participant Materials
Activity Notes	1 Activity Sheet 9a per participant
Blank transparencies	1 Evaluating and Selecting Instructional Materials for Specific Learners per participant
1 transparency of Worksheet 32, both pages	1 educational material per participant
overhead	2 copies of Worksheet 32 per participant
marking pens	

Time Needed to Complete the Module

Approximately one hour and fifteen minutes will be needed to complete the module.

Activity Notes For

Matching Learner Characteristics With Material Characteristics

(HAND OUT ACTIVITY SHEET 9a AND THE BOOKLET EVALUATING AND SELECTING INSTRUCTIONAL MATERIALS FOR SPECIFIC LEARNERS. GIVE PARTICIPANTS ABOUT TWENTY MINUTES TO READ BOTH.)

Activity Sheet 9a

1. Read the booklet, Evaluating & Selecting Instructional Materials for Specific Learners, pages 1 - 11.
2. Observe the demonstration of how to complete the Material Evaluation Form, Worksheet 32.
3. Use the form to evaluate the two educational materials you previously task analyzed.
4. Decide if the materials you evaluated have characteristics that match Sally's learning characteristics.
5. Return to the large group for discussion.
6. One member of each dyad will be asked to report on the materials they evaluated.

1. Let's review the booklet you read, Evaluating and Selecting Instructional Materials for Specific Learners. Does anyone have any questions or comments about the article?

2. To select a material, we must examine two sets of characteristics - the learner's and the material's. When these two sets of characteristics match, the selection of that material should be appropriate.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE FOLLOWING.)

3. Some things to consider when evaluating learner characteristics are:

   a. what does he need to be taught?
   b. where does he need to start?
   c. how does he learn best?
   d. what is the best way to present the information to him?

4. Some things to consider when evaluating material characteristics are:

   a. what does it teach?
   b. where does it start?
   c. how does it make provisions for learning styles?
   d. in what way does it present the information?

5. You find the learner characteristics from applying formal and informal diagnostic procedures.

6. In the booklet many criteria were used to determine material characteristics. Some of these were:

   a. the objective - what the material's designed to teach

   b. the task level of the objective - does the objective focus on direct instruction (knowledge), drill and practice (memory and application) or review and test?

   c. what skills, abilities and/or concepts are taught or reinforced? How do these fit into the overall school curriculum?

   d. Prerequisite skills - what must the learner already know or be able to do in order to use the material?

   e. How is the information in the presentation designed? Does it?

      1. motivate the child?
      2. actively involve the learner?
      3. provide opportunities for practice?
      4. challenge the learner but allow for frequent success?
      5. give him feedback about his success or failure?
      6. present the information in a sequence from simple to complex?
      7. present the information in small steps?
      8. present the information so each learner can proceed at his own pace?
      9. specify the percent of correct answers needed for success?
      10. allow enough time for the learner to make a response?

7. Other important information to consider about a material is

   a. is there a teacher's guide?

   b. are the directions for the teacher adequate?

   c. how much time must be spent in preparation?

   d. how much time is needed to use the material?

   e. is evaluation information included?

8. From the data we gathered from our informal diagnostic procedures, we determined our objectives and the methods we want to use in our prescriptive program for the child. We are now ready for the final step - determining what materials to use that will let us reach our objectives through the methods we selected.

(ON THE OVERHEAD PUT A TRANSPARENCY OF WORKSHEET 27 WITH A SHORT RANGE OBJECTIVE AND AT LEAST THREE METHODS ONE COULD USE TO REACH THE OBJECTIVE. THESE MUST MATCH THE MATERIAL YOU'VE SELECTED TO EVALUATE.)

9. This is an objective that I've written for a child. I want the child to learn one digit addition facts with sums of ten or less. The methods that I could use to reach this objective are peer tutoring, games or directive teaching. Let's say I decide to use a game to reach my objective. I have several in mind and I want to evaluate them to see which would be best for Sally, the child I wrote the objective for. I want to match Sally's learner characteristics with the material's characteristics. I have gathered information on her learning characteristics by applying Systematic Inquiry.

(HAND OUT WORKSHEET 32 AND PUT A TRANSPARENCY OF PAGE 1 OF IT ON THE OVERHEAD.)

10. This is the form I'm going to use when I'm trying to match Sally's learner characteristics with the material's characteristics. On this side I list learner characteristics. The middle column lists the criteria for evaluating the material. In the last column we'll describe how the criteria is used in the material we're evaluating.

11. The first criteria we want to examine the material for is the sensory modality the child will need to use in order to receive the information in the material. Does the material require the child to use his auditory, visual, or tactile channels or a combination of these?

12. The responses the material requires the child to make is the next criteria. Does the child need to make a verbal, motor (writing) or gestural (point, nod) response. Or would he use a combination of these? Or, is no specific response required at all?

13. Is there a variety in the way the tasks are presented? If the same task is presented several times in the same material, is there some difference in the presentation? This is especially applicable when evaluating a whole series or kit with many components.

14. Is the sequence of tasks in the material correct? Apply your knowledge of task analysis when assessing the material on this criteria. For example, if you think letter names should be taught before letter sounds, does that sequence occur?

15. What is the instructional level and the interest level?

16. Is any reinforcement built into the material? This refers to specific directions in the teacher's guide to give the child a token or praise, etc. If reinforcement is built in, what kind is it? Verbal praise? Candy, etc.

(PUT A TRANSPARENCY OF PAGE 2 OF WORKSHEET 32 ON THE OVERHEAD.)

17. Does the material provide opportunities for the child to practice the skill it is teaching? Or does it present one new skill right after another?

18. How many concepts are taught in each lesson?

19. How much time is needed for each lesson? Is this length suitable for the age and type of child the material was designed for?

20. What is the format of the material? Kit? Game? Book? Is the print large enough? Are the pages cluttered with too many words and pictures?etc.

21. What kind of teacher - learner interaction or presentation mode is required? One-to-one? Teacher - to - small group? Teacher-to-large group? Can the material be used by the child independently?

22. What other material characteristics do you notice that you would want to match up to learner characteristics? Refer to page 6 in Evaluating and Selecting Instructional Materials for Specific Learners for some suggestions.

(RECORD RESPONSES AND DISCUSS THEM.)

23. Now I am going to evaluate the Quizmo game to see if it matches the characteristics of my child. Let's say that I have gathered the following information about Sally's learning characteristics by using informal diagnostic technique specifically systematic inquiry.

    a. Sally has trouble with story problems

    b. is in second grade

    c. can hear

    d. can make circles

    e. works well in a small group

    f. responds well to social praise

    g. can't learn something unless a great deal of practice is provided

    h. can't learn something which is presented only visually. She needs the auditory stimulus coupled with the visual presentation.

(FILL IN THESE CHARACTERISTICS IN THE "LEARNER CHARACTERISTICS" COLUMN ON THE FIRST PAGE OF THE TRANSPARENCY)

24. I am going to read each criteria and try to find specific examples of that criteria in the material I am evaluating. I will write these examples in the "Materials Characteristics" and, when I am finished I I will see how the Learner and Material Characteristics columns match.

25. Sensory modality - how is the material presented to the child? Quizmo can be used in two ways. The child can read the card - there the input would be visual - or someone can read the card to him - the input then would be auditory.

(RECORD THESE AND THE OTHER MATERIAL CHARACTERISTICS IN THE RIGHT HAND COLUMN OF THE TRANSPARENCY.)

26. The response required of the child is motor. The child places a marker over a number on a card.

27. Varieties of presentation of the task --- this criteria is really more applicable when you are evaluating a basal reading and/or math series or a kit of lessons. Quizmo presents the task solving addition or subtraction problems in only one way. So, we can not say it presents the tasks in a variety of ways.

28. The next criteria, sequence of the tasks in the presentation, isn't really applicable to Quizmo. That criteria is more applicable when you're evaluating a basal series or a whole kit of lessons.

29. Instruction level is grades two through six and so is the interest level.

30. Next is reinforcement. None is provided in this game. Remember that reinforcement refers to specific instructions to give verbal praise, a token, etc.

31. Is practice provided? This criteria is met in Quizmo. It definitely supplies lots of drill.

32. How many concepts are taught in a lesson? Quizmo teaches only one concept - either addition or subtraction.

33. What is the length of lesson? This can vary with how long you decide to play the game. Most children can play it about fifteen to twenty minutes without becoming bored.

34. What is the format? Quizmo is a game with cards with numbers on them and markers.

35. What teacher-learner interaction is required? It can be played on a one-to-one basis with a teacher and a child or with another child acting as the teacher. It can also be played in small groups with either the teacher, or a child designated as the teacher, being the leader.

36. What other criteria is applicable? Here you can mark any other criteria you're using to evaluate the material.

37. Now, let's compare what we've found out about Quizmo with Sally's learner characteristics.

38. Sally's first characteristic is that she has trouble with story problems. Quizmo matches Sally on this point because it presents numbers only and no story problems.

39. The next characteristic is that she's in second grade. Both the instruction and interest level of Quizmo fall within the second grade range so it is applicable in this respect.

40. Sally can hear. This is applicable if the game is played where the teacher or leader reads the problem orally to the child.

41. Sally can make circles. This characteristic of Sally's doesn't really matter when we use Quizmo.

42. Sally works well in a small group. Quizmo can be used in a small group so this characteristic matches.

43. She responds well to social praise. Quizmo makes no provisions for reinforcement.

44. She can't learn something unless much practice is provided. Quizmo does provide practice so these characteristics match.

45. Sally can't learn a skill unless it is presented auditorially and visually. If Quizmo is played so that someone reads the problem outloud and shows the players the card with the problem written on it, the game can meet this learner characteristic.

46. So, Sally and Quizmo both have six characteristics that match. Of Sally's learner characteristics one isn't applicable and the other, responds well to social praise, isn't provided for by the game.

47. After you have matched the learner and material characteristics, you must make a decision as to whether or not the material and child match on enough characteristics to warrant your using the material. If they may match on only two or three out of many, you might want to evaluate other materials to see if you can find one where there is a more complete match-up.

48. Please complete the worksheet for the two materials you task analyzed. Always remember to include specific examples.

49. After you've finished each analysis, decide if the material matches with Sally's learner characteristics. Later, you'll present your evaluations to the group. When you present your evaluation, we'll ask you to give specific examples of the criteria you found the material to possess.

(WHEN EVERYONE HAS FINISHED THEIR EVALUATIONS, HAVE THE GROUP FORM A CIRCLE AND ASK EACH DYAD TO PRESENT THEIR EVALUATIONS. ASK THEM TO GIVE SPECIFIC EXAMPLES OF THE CRITERIA THEY THINK THE MATERIAL HAS. IF THEY THINK THE MATERIAL THEY EVALUATED HAD CHARACTERISTICS THAT MATCH WITH SALLY'S CHARACTERISTICS, WRITE THE MATERIAL'S NAME ON A BLANK TRANSPARENCY ON THE OVERHEAD AND ASK THE PARTICIPANTS TO RECORD THE MATERIALS NAME IN THE "MATERIALS" COLUMN OF WORKSHEET 27.)

(AT THE CONCLUSION OF THIS ACTIVITY, ASK THE PARTICIPANTS THE FOLLOWING QUESTIONS:

50. What do you think are the strong and weak points of evaluating materials in this manner?

51. Are there other criteria you would like on this form?

Matching Learner Characteristics with Material Characteristics

Activity Sheet 9a

1. Read the booklet, Evaluating and Selecting Instructional Materials for Specific Learners, pages 1-11.
2. Observe the demonstration of how to complete the Material Evaluation Form, Worksheet 32.
3. Use the form to evaluate the two educational materials you previously task analyzed.
4. Decide if the materials you evaluated have characteristics that match Sally's learning characteristics.
5. Return to the large group for discussion.
6. One member of each dyad will be asked to report on the materials they evaluated.

Material Evaluation Form (Use in Activity 5a)

LEARNER CHARACTERISTICS	CRITERIA FOR MATERIAL SELECTION	DESCRIBE THE MATERIAL IN TERMS OF THE CRITERIA USING SPECIFIC EXAMPLES
	1. Sensory modality(ies) (Input, reception)	
	2. Child Response Required (Output)	
	3. Varieties of presentations of the tasks	
	4. Sequence of the tasks in the presentation	
	5. Instructional Level/Interest Level	
	6. Reinforcement	

LEARNER CHARACTERISTICS	CRITERIA FOR MATERIAL SELECTION	DESCRIBE THE MATERIAL IN TERMS OF THE CRITERIA USING SPECIFIC EXAMPLES
	7. Practice provided	
	8. Number of concepts taught in a lesson	
	9. Length of lesson	
	10. Format	
	11. Teacher-Learner Interaction	
	12. Other	

Facilitator Notes for

Designing Materials for the Educationally Handicapped (Designo)

This module is the last in the series. It is a game designed to teach participants how to develop educational materials if none are available to meet a specific child's need.

The module contains a game board. It can be duplicated, or xeroxed, or drawn on oaktag. If it remains in the 8½"x 11" size, there should be one game board for every dyad. If it is drawn on oaktag, there can be one for every four participants.

Participants often find it helpful if the design cards are duplicated and distributed so everyone can have a copy of everyone else's idea.

Objective of the Module

1. Each participant will design an educational material that considers a child's

    a. instructional level
    b. interest level
    c. reception or input mode
    d. response or output mode, and
    e. prerequisite skills

    with 90% accuracy.

Time Needed to Complete the Module

Approximately forty-five minutes will be required for this module.

DESIGNING MATERIALS FOR THE EDUCATIONALLY HANDICAPPED (DESIGNO)

Activity 10a

1. Each player should take 4 markers of the same color.
2. Roll the die or spin the spinner.
3. Place a marker on the board on the corresponding number in column I under "OBJECTIVE" according to the number that shows on the die or spinner.
4. Continue rolling or spinning and placing each of your 4 markers in each of the next 3 columns under "CHILD CHARACTERISTICS", "FORMAT", AND "INSTRUCTIONAL LEVEL/INTEREST LEVEL".
5. Read each descriptive statement and design a material for an educationally handicapped learner on the form provided.
6. The last column on the board is a "FREE CHOICE". You may select any combination of these media/materials to be used in developing your design.

NOTE: Remember that your learner is educationally handicapped and also has an additional characterisitc which must be taken into consideration.

OBJECTIVE	CHILD CHARACTERISTICS	FORMAT	INSTRUCTIONAL LEVEL/ INTEREST LEVEL	FREE CHOICE
6. Johnny will be able to place pictures in proper sequential order with 100% accuracy.	6. Serious speech problem.	6. Outdoor activity.	6. 1st Grade/ Intermediate.	6. Drymount press Drymount tissue Laminating film
5. Mary will orally spell four new words and use them in a sentence with 100% accuracy.	5. "Acts out" when losing the direct attention of the teacher.	5. Cassette tape	5. 2nd Grade/ Primary	5. Primary typewriter Thermofax Overhead
4. Tracy will be able to identify the missing part of an object with 100% accuracy.	4. Child usually will not join groups of more than two.	4. 3-D Manipulatives	4. 1st Grade/ Preschool	4. Language master Audio cards
3. Marion will be able to recognize 5 Dolch Sight Words with 100% accuracy.	3. Mutilates or destroys everything he gets his hands on.	3. Game	3. 2nd Grade/ Intermediate	3. Oaktag, markers scissors, lettering guides, manila folders, envelope
2. Tommy will be able to recall the sums of addition facts to 5 with 100% accuracy.	2. Can't follow verbal directions.	2. Card reader program	2. Kindergarten/ Primary	2. Wood, clay, sandpaper, styrofoam, yarn, wallpaper scraps
1. Bobby will be able to read the alphabet letters with 100% accuracy.	1. Does not seem to catch on as quickly as most and must have things explained over & over.	1. Learning Packet	1. 1st Grade/ Primary	1. Cassette recorder Tape

Designing Materials for the Educationally Handicapped (Designo)

Design Form

OBJECTIVE:

CHILD CHARACTERISTICS: The learner is educationally handicapped and...

INSTRUCTIONAL LEVEL:

INTEREST LEVEL:

FORMAT:

EQUIPMENT NEEDED: (Projectors etc.)

RECEPTION or INPUT: (Sensory channel through which the learner receives information from the material: Auditory; Visual; Tactile; Auditory-Visual; Visual-Tactile; Auditory-Tactile)

LEARNER RESPONSE or OUTPUT: (Expressive channel through which the learner responds to information from the material: Verbal or NonVerbal)

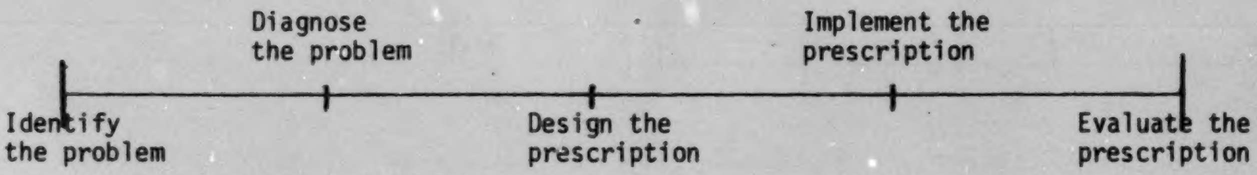
TEACHER/LEARNER/MATERIAL INTERACTION:

PREREQUISITE SKILLS:

DESCRIPTION OF MATERIALS TO CONSTRUCT:

Activity Notes for the Final Summary

(PUT THE CONTINUUM TRANSPARENCY ON THE OVERHEAD)



1. This continuum is basically a referral process.

2. The child is identified by his teacher as having some kind of a problem. Your role, as a resource teacher or consultant, is to define that problem and decide what types of information you still need to design a prescriptive program for this child.

3. To assist you in doing this, we looked at this format.

(PULL THE TRANSPARENCY OF WORKSHEET 1 ON THE OVERHEAD)

4. We asked ourselves these questions to help us pinpoint Sally's problem and to help identify the other types of information we needed to eventually plan a program for her.

(PUT THE TRANSPARENCIES OF WORKSHEETS 2 & 3 ON THE OVERHEAD)

5. We did identify some types of diagnostic information we wanted to gather about Sally.

6. We used the Task Analysis process to gather some of this data.

7. Task Analysis is isolating, describing and sequencing subtasks.

8. Task Analysis is used as a diagnostic technique by developing informal tests for each subtask the child must do to complete the objective.

9. The subtasks the child can't do are those you teach him.

10. In Task Analysis, we looked at the skill requirements of the objective. In Error Pattern Analysis, the second diagnostic technique we examined, we looked at examples of the child's work.

11. The six steps of Error Pattern Analysis are:

    a. Find and mark errors
    b. Fill in correct response
    c. Describe errors
    d. Write a tentative conclusion
    e. Confirm the conclusion
    f. Write a diagnostic hypothesis

12. We concerned ourselves with the first four steps. We looked at worksheets and tests and tried to find the pattern of errors. We tried not to make inferences but only to write down the things we could observe on the worksheet or test. We didn't want to put down things like "may have a memory problem" but observable statements like "can't do problems with zero in the multiplier."

13. Next, we talked about Systematic Inquiry as a method for gathering information about a child's learning style. To do Systematic Inquiry, which is a process of modifying subtasks, we have to do a Task Analysis.

14. We modify each task the child cannot do to assess the amount and kind of assista the child needs to do the task. We talked about lateral and downward modifications. Lateral modifications were "sideways" ones. They happen when we present two almost identical phonics pages. Examples of downward modifications were altering the type of response the child made, making the task more concrete, and so forth.

15. There were two rules of Systematic Inquiry.

    a. The first rule was to make as minor an alteration in the task as possible. The restructured task should be as similar to the original task as possible. This ensures that the original skill is still being assessed.
    b. The second rule is try to make only one alteration in a task at a time. Sometimes, we found it necessary to make more than one alteration at a time. However, whenever we can follow this rule it helps us pinpoint the best method to teach a child.

16. We usually make inquiries in a specific order.

    a. The first inquiry we usually make is to change the task so it calls for an alternative response.
    b. If the child still can't do the task after we've asked him to respond in a different way, then we:

        1) check his ability to do each subtask.
        2) modify each subtask he cannot do.

17. This completed our section on identifying and diagnosing the problem.

18. Next, we did an activity with Sally and decided, based on the error pattern of the tests and worksheets she had completed, what skills she could and could not do. We also decided what areas we wanted still more information on and made some statements about Sally's learning style.

19. Then we discussed how to establish priorities. We had a big list of what Sally couldn't do and we couldn't go in and teach everything at once.

20. Setting priorities is really a subjective activity. Some things we mentioned that might influence our establishing priorities were:

    a. Teacher's request
    b. Child's request
    c. Parent's request
    d. What the school system says the child is supposed to learn next, and so forth.

21. We then were ready to move into prescriptive programming for the child. We had our diagnostic information and our priorities which were based on the diagnostic information.

22. We wrote behavioral objectives that were based on the priorities. We talked about long and short range objectives. We said an objective contains three things - a statement of behavior, conditions under which the behavior will occur and criteria.

23. Next, in prescriptive programming, we looked at the methods we could use to reach our objectives. We defined a method as how to teach.

    a. Examples of some methods are multisensory approach, one-to-one and peer teaching, generalization, the programmed approach and so forth.

24. When we discussed Task Analysis as a remedial technique, we looked at a Task Analysis of an objective.

    a. We checked the child out and found what subtasks he could and couldn't do.
    b. This told us where to begin our remediation. It gave us a lesson plan. We knew after teaching a child one subtask that we would move on to the next one in the list of tasks.
    c. We discussed that if the child knew some of the subtasks, but not others, we didn't need to re-teach him the ones he knew but we did want to include them each time we taught the lesson so we could help him learn the whole sequence.

25. Next we looked at directive teaching as a method and applied that to writing learning sequences. Learning sequences can form the basis of a prescriptive program for a child.

    a. They are uncluttered "scripts" that can be used to teach a fact or concept.
    b. You can use the same basic script to teach several concepts. For example, when you write one to teach the sound "f" makes, you can generalize that and use it for other letter sounds.

26. After we completed the learning methods module, we had done the following:

    a. Defined a child's problem.
    b. Gathered diagnostic information about that problem which helped us identify skills the child could and could not do.
    c. Selected certain priorities and wrote behavioral objectives for them.
    d. Chose methods to meet those objectives.

27. We were then ready for the next step. We talked about materials we would use to help us carry out the methods we had chosen to meet the objectives.

28. We applied Task Analysis to the materials and then used a form to evaluate them.

    a. We stressed that the materials we selected must have characteristics that were compatible with the child's learning characteristics.

   b. We also stressed that the materials selected must match our objectives and the methods we had chosen to reach those objectives. This would eliminate selecting materials only because they were cute or cheap or whatever.

29. We then looked at a process for designing new materials. We can design materials if we can find none that are commercially available that will meet the child's needs.

30. We have tried to present a process to you. We feel the skills we discussed in this workshop are applicable to all kinds of handicapped children at all age levels. We hope this is the kind of process you'll go through when working with a child with problems.

   a. First you'll try to define the problem
   b. Next you'll gather diagnostic information
   c. Third, you'll design a prescriptive program
   d. Then you'll implement the prescriptive program
   e. Finally, you'll evaluate the prescriptive program

APPENDICES

Notes on the Use and Scoring of the Individual Module Tests and the Global Test

The global test, "Informal Diagnosis and Prescriptive Programming Pre- and Post-Test," should be given when you are conducting a workshop that includes all the modules. If your workshop will include only a few modules, use the individual module pre- and post-tests.

There are no individual module tests for the "What the Child Can and Can't Do and Setting Priorities," "Task Analysis of Materials," and "Designing Materials for the Educationally Handicapped" modules, nor are questions about these included in the global test. The rationale behind this is as follows. "What the Child Can and Can't Do and Setting Priorities" is a transition module. Its purpose is for participants to gather all their informal diagnostic information into a summary format that they can use to plan prescriptive programs. It is a module that does not really teach any new skills or teach skills that can be tested through pencil and paper tests.

The "Task Analysis of Materials" module reviews the process of task analysis by applying it to materials. We did not think we could make up any questions that would apply only to this module, as the skills the participants need for both task analysis modules are the same. Therefore, we suggest that if you are giving the individual module tests, give the task analysis pre-test before the "Introduction to Task Analysis" module and give the post-test after the "Task Analysis of Materials" module. The questions in the global test on task analysis test the skills needed for both modules.

"Designing Materials for the Educationally Handicapped" was another difficult module to write test questions for. This module really reviews the information presented in the "Matching Learner Characteristics with Materials Characteristics" module and asks participants to apply that information in a little different way. Therefore, because the skills needed to complete these two modules are the same, give the pre-test on matching learner and material characteristics before that module and give the post-test after the "Designing Materials for the Educationally Handicapped" module. The questions in the global test on matching learner and material characteristics test the skills needed for both modules.

Some of the questions on the global and individual module tests are worth more than one point of credit. The number of points each question is worth is in the left hand margin before each question. We suggest that you give partial credit for those questions worth more than one point if the participant completing the question gets it partially correct. For instance, if someone lists two out of four learning methods, that would be worth two points.

Definition Page for the Informal Diagnosis and Prescriptive Programming Pre- and Post Test

Task Analysis is a process of breaking an objective into the small subtasks needed to complete it.

Error Pattern Analysis is a technique for gathering information about the errors a child makes. When using EPA, the teacher examines the responses made by a child and writes a statement(s) in behavioral terms about the errors he has made.

Systematic Inquiry is a process of restructuring subtasks in order to assess the amount and kind of assistance the child needs in order to do the subtask. If a child can't complete a certain subtask, the teacher can modify it so the child can complete it correctly.

Informal Diagnosis and Prescriptive Programming
Pre- and Post Test

1. A procedure(s) that does not require information about a child.

   a. Task Analysis
   b. Error Pattern Analysis
   c. Prescriptive Programming
   d. a and c

2. A procedure(s) that could be useful as a diagnostic tool.

   a. Task Analysis
   b. Error Pattern Analysis
   c. Prescriptive Programming
   d. a and b

3. Which of the following is true?

   a. Task Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   b. Error Pattern Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   c. Error Pattern Analysis tries to control for all possible sources of error.
   d. Task Analysis and Error Pattern Analysis are informal diagnostic procedures which do not guarantee validity.

oints 4. List four principles to consider when evaluating a material to see if its characteristics match a child's learning characteristics.

5. A reason(s) for using Error Pattern Analysis is:

   a. to become more familiar with a child's strengths and weaknesses
   b. to ascertain points at which consistent errors are made
   c. to try to isolate skills needing remediation
   d. all of the above

6. What are the first two things to do when a child is referred to you?

   a. Define the problem and begin formal diagnostic testing.
   b. Define the problem and begin informal diagnostic testing.
   c. Define the problem and identify what other kinds of information you need.
   d. Define the problem and write behavioral objectives.

7. When applying the process of systematic inquiry, the two rules to follow are:

   a. Make major alterations in the main subtasks but change as few subtasks as possible.
   b. When modifying a task, make the alteration as minor as possible and make only one alteration in a task at a time.
   c. Do an Error Pattern Analysis of the task and then make major alterations in the main subtasks.
   d. Make at least two changes in every task and make the alterations after doing a task analysis of the objective.

8. Which of the following is not one of the potential uses of Task Analysis as described by Barbara Bateman?

   a. Grouping learners
   b. Readiness of learners
   c. Reinforcement of learners
   d. Motivation of learners

A child was given the following problem as part of a math worksheet.

$$\boxed{} = 5 + 4$$

9. Which of the following would not appear in a Task Analysis of this problem?

   a. Can match symbols and quantities
   b. Can match symbols and operation
   c. Can remember the visual symbol of "9"
   d. Can write the numeral "9"

10. Which of the following would not appear in a Task Analysis of this problem?

    a. Can match symbols and operations
    b. Can partial count (Start counting at 5 and stop at 9)
    c. Can count forward by 1's to 9
    d. Can say "9"

11. Which of the following would not appear in a Task Analysis of this problem?

    a. Can attend to the task
    b. Can associate symbols and quantities
    c. Can locate the problem
    d. Can count forward by 1's

12. Which of the following would not appear in a Task Analysis of this problem?

    a. Can understand the directions
    b. Can count forward by 1's
    c. Can write the numeral "9"
    d. Can attend to the problem long enough to solve it

13. Error Pattern Analysis should be used

    a. while you are alone with the child
    b. for standardizing instructional strategies
    c. along with several other diagnostic techniques
    d. all of the above

oints 14. List three categories of information you may need to gather in order to develop a prescriptive program for a child.

15. A child is asked to spell orally the word "house". He does so incorrectly. Which is the first modification (systematic inquiry) of that task you would make?

    a. Give the child an incomplete sentence to read. Structure it so the word required to complete it is "house". Ask the child to read the sentence and complete it by writing in the missing word.
    b. Ask the child to write the word "house" instead of spelling it orally.
    c. Show the child a picture of a house and ask him to orally spell the word that correctly names the picture.
    d. Give the child a sentence with "house" in it and ask him to point to the word "house".

oints 16. Write a behavioral objective. Include in it three components.

17. Task Analysis directs one's attention primarily to

    a. the child
    b. the objective
    c. the teacher
    d. the environment

18. Which of the following is not a step in Error Pattern Analysis?

    a. Identify the errors
    b. Describe the errors
    c. Task analyze the errors
    d. Write a tentative conclusion

ints 19. List three learning principles.

EXAMINE MULTIPLICATION WORKSHEET I.

20. The following are possible sources of error. Which one can be ruled out as a source of error on Multiplication Worksheet I?

   a. Attending to the task
   b. Understanding the language of directions
   c. Hearing adequately
   d. Writing numbers

oints 21. Analyze Multiplication Worksheet I and write the major pattern of errors you find.

22. All steps in a Task Analysis should be stated in words that represent

   a. observable behaviors
   b. processes
   c. relationships
   d. skills

23. What must be considered when evaluating a child's learning characteristics?

   a. What does he need to be taught?
   b. Where does he need to start?
   c. What is the best way to present information to him?
   d. All of the above.

24. There are six questions to ask yourself when defining the child's problem. Which is not one?

- a. Who is affected?
- b. What skills are deficit?
- c. What kinds of information are needed to program for the child?
- d. Are there ways to meet this problem?

oints 25, List three systematic inquiries (modifications) for the following task.

This is what the teacher says:

"Look at the example box...

EXAMPLE

d ①
m ②
t ③
b ④

I am going to read a made-up word to you. Listen carefully and decide which letter makes the beginning sound of the word. Ready? Tuv... tuv. Which letter makes the beginning sound? (Wait for a response). Good. The letter t does, so fill in the circle beside t. (Pause) Now we will begin the test. Listen carefully to the words I am going to read to you. Decide which letter makes the beginning sound of each word and fill in the circle beside your answer. Ready?

This is the Task Analysis of the above task:

a - attend to oral directions
b - demonstrate an understanding of concepts in directions ("beginning sounds")
c - locate correct item
d - repeat stimulus word
e - isolate beginning sound
f - match letter sound and letter symbol (sound-symbol correspondence)
g - select correct response by filling in the circle

Systematic Inquiries:

1.

2.

3.

26. Barbara Bateman mentions four essentials of "clean teaching." Which is not one?

    a. The teaching presentation relies a great deal on previously learned material.
    b. The teaching presentation is uncluttered.
    c. The teaching presentation is unambiguous.
    d. The teaching presentation is accurate.

27. What are the three components of behavioral objectives?

    a. Behavior modification, conditions, evaluation
    b. Behavior, conditions, criteria
    c. Counting behaviors, charting behaviors, evaluating
    d. Who, what, where

28. Which phrase(s) describes a concept synonymous with the phrase "how to?"

    a. Prescriptive Programming
    b. Behavioral Objectives
    c. Error Pattern Analysis
    d. a and c

29. When performing a Task Analysis, one must ______________________, ________________________, and ______________________ all necessary subtasks.

30. How do we find out what a child's learning characteristics are?

31. Which of the following is not a directive teaching procedure?

    a. Get the child's attention
    b. Focus on two concepts at a time
    c. Program the child so he's correct in nearly all his responses
    d. Give the child positive reinforcement

Multiplication Worksheet I

1. 247
x 25
1235
4940
(5175)

6275

2. 247
x 801
247
000
97400
(97647)

197847

3. 545
x 247
4815
1800
1090000
(1096615)

134615

4. 247
x 45
1245
9880
(100125)

11115

5. 247
x 42
494
9880
(10374)

10374

The correct answers are written beneath the problem.

ANSWER KEY

Informal Diagnosis and Prescriptive Programming
Pre- and Post Test

1. A procedure(s) that does not require information about a child.

   [✓ a.] Task Analysis
   b. Error Pattern Analysis
   c. Prescriptive Programming
   d. a and c

2. A procedure(s) that could be useful as a diagnostic tool.

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   b. Error Pattern Analysis
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   b. Error Pattern Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   c. Error Pattern Analysis tries to control for all possible sources of error.
   [✓ d.] Task Analysis and Error Pattern Analysis are informal diagnostic procedures which do not guarantee validity.

4. List four principles to consider when evaluating a material to see if its characteristics match a child's learning characteristics.

   a. What sensory modalities are used?
   b. What child response is required?
   c. Is there variety in presentations of the tasks.
   d. Are the tasks sequenced correctly in the presentation?
   e. What is the instructional/interest level?
   f. Is reinforcement provided?
   g. Is practice provided?
   h. How many concepts are taught in a lesson?
   i. What is the format?

(OVER)

5. A reason(s) for using Error Pattern Analysis is:

   a. to become more familiar with a child's strengths and weaknesses
   b. to ascertain points at which consistent errors are made
   c. to try to isolate skills needing remediation
   [✓ d.] all of the above

j. How long is the lesson?
k. What kind of teacher-learner interaction is called for?
i. Other

(If other responses appear logical to you, accept them. If the questions "What does it teach?" "Where does it start?" "How does it make provisions for learning styles?" and "In what way does it present the information?" are listed, ask the participants to be more specific.)

6. What are the first two things to do when a child is referred to you?

a. Define the problem and begin formal diagnostic testing.
b. Define the problem and begin informal diagnostic testing.
[✓ c.] Define the problem and identify what other kinds of information you need.
d. Define the problem and write behavioral objectives.

7. When applying the process of systematic inquiry, the two rules to follow are:

a. Make major alterations in the main subtasks but change as few subtasks as possible.
[✓ b.] When modifying a task, make the alteration as minor as possible and make only one alteration in a task at a time.
c. Do an Error Pattern Analysis of the task and then make major alterations in the main subtasks.
d. Make at least two changes in every task and make the alterations after doing a task analysis of the objective.

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b. Readiness of learners
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d. Motivation of learners

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[✓ c.] Can remember the visual symbol of "9"
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    c. Can count forward by 1's to 9
    [✓ d.] Can say "9"

11. Which of the following would not appear in a Task Analysis of this problem?

    a. Can attend to the task
    [✓ b.] Can associate symbols and quantities
    c. Can locate the problem
    d. Can count forward by 1's

12. Which of the following would not appear in a Task Analysis of this problem?

    [✓ a.] Can understand the directions
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    c. Can write the numeral "9"
    d. Can attend to the problem long enough to solve it

13. Error Pattern Analysis should be used

    a. while you are alone with the child
    b. for standardizing instructional strategies
    [✓ c.] along with several other diagnostic techniques
    d. all of the above

oints 14. List three categories of information you may need to gather in order to develop a prescriptive program for a child.

    a. Background information (family, previous educational experiences, etc.)
    b. Intellectual information (at what level is the child functioning?)
    c. Behavioral information (what can the child do? what can't he do?)
    d. Other information (health, sensory, etc.)

15. A child is asked to spell orally the word "house". He does so incorrectly. Which is the first modification (systematic inquiry) of that task you would make?

    a. Give the child an incomplete sentence to read. Structure it so the word required to complete it is "house". Ask the child to read the sentence and complete it by writing in the missing word.
    [✓ b.] Ask the child to write the word "house" instead of spelling it orally.
    c. Show the child a picture of a house and ask him to orally spell the word that correctly names the picture.
    d. Give the child a sentence with "house" in it and ask him to point to the word "house".

oints 16. Write a behavioral objective. Include in it three components.

Any behavioral objective is acceptable as long as it contains a statement of behavior (who did what), some conditions (when, where, how, etc.) and criteria (how well must it be done?).

17. Task Analysis directs one's attention primarily to

    a. the child
    [✓ b.] the objective
    c. the teacher
    d. the environment

18. Which of the following is not a step in Error Pattern Analysis?

    a. Identify the errors
    b. Describe the errors
    [✓ c.] Task analyze the errors
    d. Write a tentative conclusion

oints 19. List three learning principles.

a. One-to-one student-teacher interaction
b. Auditory-visual approaches
c. Multisensory approaches
d. Positive reinforcement
e. Peer tutoring
f. Directive teaching

OVER

EXAMINE MULTIPLICATION WORKSHEET I.

20. The following are possible sources of error. Which one can be ruled out as a source of error on Multiplication Worksheet I?

a. Attending to the task
b. Understanding the language of directions
c. Hearing adequately
[✓ d.] Writing numbers

oints 21. Analyze Multiplication Worksheet I and write the major pattern of errors you find.

Multiplication fact errors (8x7, 7x5).

Errors in carrying (the child seems to forget to add in the numbers she is carrying).

(If other responses appear logical to you, accept them. The key words are "major pattern.")

22. All steps in a Task Analysis should be stated in words that represent

[✓ a.] observable behaviors
b. processes
c. relationships
d. skills

23. What must be considered when evaluating a child's learning characteristics?

a. What does he need to be taught?
b. Where does he need to start?
c. What is the best way to present information to him?
[✓ d.] All of the above.

g. Over-learning (practice)
h. Teaching only one concept at a time
i. Presenting uncluttered lessons
j. Presenting unambiguous lessons
k. Presenting lessons that don't rely a great deal on previously learned material, skills, etc
l. Presenting lessons that are accurate
m. Presenting lessons that are broken into steps small enough to fit the child's learning style
n. Present lessions that contain tasks that are sequentially ordered
o. Use signal words to gain a child's attention
p. Entry skills are specified
q. Provide for stimulus generalization
r. Correction procedures are incorporated
s. Modeling
t. Cueing
u. Prompting

(If other responses appear logical to you, accept them as long as they refer to a "how to teach" procedure.)

24. There are six questions to ask yourself when defining the child's problem. Which is not one?

a. Who is affected?
b. What skills are deficit?
[✓ c.] What kinds of information are needed to program for the child?
d. Are there ways to meet this problem?

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This is the Task Analysis of the above task:

a - attend to oral directions
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c - locate correct item
d - repeat stimulus word
e - isolate beginning sound
f - match letter sound and letter symbol (sound-symbol correspondence)
g - select correct response by filling in the circle

Systematic Inquiries:

1.

2.

3.

a. Ask the child to respond orally
b. Use cue words to gain the child's attention
c. Use a clicker to gain the child's attention
d. Change the language of directions
e. Write the directions instead of presenting them orally

f. Put a symbol by each box of responses so you can help the child locate the correct item by saying, "Put your finger on the _______."
g. Model the task
h. Teach the child how to isolate beginning sounds
i. Put a cue picture above the letters of the sounds the child does not know (apple above "ă")
j. Reduce the number of choices
k. Reduce the similarity of choices (do not have both "b" and "d" as possible choices)
l. Cut the page up and present only one row at a time
m. Use real instead of nonsense words
n. Make the responses larger

(Systematic inquiries for any of the subtasks are acceptable as long as they are a logical modification of the subtask. Be sure they are modifications and not checks.)

26. Barbara Bateman mentions four essentials of "clean teaching." Which is not one?

[✓ a.] The teaching presentation relies a great deal on previously learned material.
b. The teaching presentation is uncluttered.
c. The teaching presentation is unambiguous.
d. The teaching presentation is accurate.

27. What are the three components of behavioral objectives?

a. Behavior modification, conditions, evaluation.
[✓ b.] Behavior, conditions, criteria
c. Counting behaviors, charting behaviors, evaluating
d. Who, what, where

28. Which phrase(s) describes a concept synonymous with the phrase "how to?"

[✓ a.] Prescriptive Programming
b. Behavioral Objectives
c. Error Pattern Analysis
d. a and c

29. When performing a Task Analysis, one must isolate, describe, and sequence all necessary subtasks.

30. How do we find out what a child's learning characteristics are?

From applying formal and informal diagnostic procedures.

31. Which of the following is not a directive teaching procedure?

a. Get the child's attention
[✓ b.] Focus on two concepts at a time
c. Program the child so he's correct in nearly all his responses
d. Give the child positive reinforcement

Defining the Problem and Identifying What Will Meet the Child's Needs: Pre- and Post Test

1. What are the first two things to do when a child is referred to you?

point

   a. Define the problem and identify what other kinds of information you need.
   b. Define the problem and begin formal diagnostic testing.
   c. Define the problem and begin informal diagnostic testing.
   d. Define the problem and write behavioral objectives.

2. There are six questions to ask yourself when defining the child's problem. Which is not one?

point

   a. Who is affected?
   b. What skills are deficit?
   c. What kinds of information are needed to program for the child?
   d. Are there ways to meet this problem?

3. List three categories of information you may need to gather in order to develop a prescriptive program for a child.

points

4. What kinds of statements does a problem statement include?

point

   a. What is the apparent skill deficit?
   b. What procedures can be used to meet this problem?
   c. What remains to be done?
   d. a and c.

ANSWER KEY

Defining the Problem and Identifying What Will Meet the Child's Needs: Pre- and Post Test

1. What are the first two things to do when a child is referred to you?

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3. List three categories of information you may need to gather in order to develop a prescriptive program for a child.

points

a. Background information (family, previous educational experiences, etc.)
b. Intellectual information (at what level is the child functioning?)
c. Behavioral information (What can the child do? What can't he do?)
d. Other information (health, sensory, etc.)

4. What kinds of statements does a problem statement include?

point

a. What is the apparent skill deficit?
b. What procedures can be used to meet this problem?
c. What remains to be done?
[✓ d.] a and c.

Task Analysis: Pre- and Post Test

1. When performing a task analysis, one must ____________________,
point ____________________, and ____________________ all necessary
subtasks.

2. Task Analysis directs one's attention primarily to:

point
   a. the child.
   b. the teacher.
   c. the objective.
   d. the environment.

3. Which of the following is not one of the potential uses of Task Analysis as described by Bateman?

point
   a. Grouping learners.
   b. Readiness of learners.
   c. Motivation of learners.
   d. Reinforcement of learners.

4. Circle the true statement:

point
   a. Task Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   b. Task Analysis in an informal diagnostic procedure which does not guarantee validity.

5. All steps in a Task Analysis should be stated in words that represent

point
   a. observable behaviors.
   b. processes.
   c. relationships.
   d. skills.

A child was given the following problem as part of a math worksheet.

$\square = 5 + 4$

6. Which of the following would not appear in a task analysis of this problem?

point
   a. Can match symbols and quantities.
   b. Can match symbols and operation.
   c. Can remember the visual sumbol of "9".
   d. Can write the numeral "9".

7. Which of the following would not appear in a task analysis of this problem?

point

a. Can match symbols and operations .
b. Can partial count (Start counting at 5 and stop at 9) .
c. Can count forward by 1's to 9 .
d. Can say, "9" .

8. Which of the following would not appear in a task analysis of this problem?

point

a. Can attend to the task .
b. Can associate symbols and quantities .
c. Can locate the problem .
d. Can count forward by 1's .

9. Which of the following would not appear in a task analysis of this problem?

point

a. Can understand the directions .
b. Can count forward by 1's .
c. Can write the numeral "9" .
d. Can attend to the problem long enough to solve it .

point 10. Task analysis can be used to determine the skill requirements of an objective.

TRUE or FALSE

ANSWER KEY

Task Analysis: Pre- and Post Test

1. When performing a task analysis, one must isolate, describe, and sequence all necessary subtasks.

oint

2. Task Analysis directs one's attention primarily to:

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a. the child.
b. the teacher.
[✓ c.] the objective.
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oint 10. Task analysis can be used to determine the skill requirements of a objective.

[✓ TRUE] or FALSE

Error Pattern Analysis: Pre- and Post Test

Error Pattern Analysis (EPA) is an informal diagnostic technique for gathering information about the errors a child makes. When using EPA, the teacher examines the responses made by a child and writes a statement(s) in behavioral terms about the errors he has made.

Examine multiplication worksheet I.

1. The following are possible sources of error. Which one can be ruled out as a source of error on multiplication worksheet I?

oint

   a. Attending to the task.
   b. Understanding the language of directions.
   c. Hearing adequately.
   d. Writing numbers.

2. Analyze Multiplication Worksheet I and write the major pattern of errors
oints you find.

3. The following test items were presented to a child. The examiner
oint shows the picture (see attached picture) to the child and reads the questions. The child is asked to point to the correct answer(s).

   a. Find the boy.
   b. Find the tree.
   c. Find the dog.
   d. Find the ball.
   e. Find the ones that are not a dog.
   f. Find the one that talks.
   g. Find the ones that are not a bed.
   h. Find the ones that do not talk and do not bark.
   i. Find the biggest one.
   j. Find the ones that are not the biggest.

These were the child's responses. Study them and write the major error patterns found in these responses.

a. Points at the boy.
b. Points at the tree.
c. Points at the dog.
d. Points at the ball.
e. Points at the dog.
f. Points at the boy.
g. Points at all the pictures.
h. Points at the boy and dog.
i. Points at the tree.
j. Points at the tree.

point 4. Which of the following is not a step in error pattern analysis?

a. Identify the errors.
b. Task analyze the errors.
c. Describe the errors.
d. Write a tentative conclusion.

point 5. Error Pattern Analysis can best be applied

a. to a series of similar tasks that have been completed by the child.
b. as the child is working.
c. by providing immediate feedback.
d. by marking correct responses instead of incorrect ones.

point 6. Error Pattern Analysis should be used

a. while you are alone with the child.
b. for standardizing instructional strategies.
c. along with several other diagnostic techniques.
d. all of the above.

point 7. A reason(s) for using Error Pattern Analysis is

a. to become more familiar with the child's strengths and weaknesses.
b. to ascertain points at which consistent errors are made.
c. to try to isolate skills needing remediation.
d. all of the above.

Multiplication Worksheet I

1.
$$\begin{array}{r} 247 \\ \times\ 25 \\ \hline 1235 \\ 4940 \\ \hline (5175) \end{array}$$

6275

2.
$$\begin{array}{r} 247 \\ \times\ 801 \\ \hline 247 \\ 000 \\ 97400 \\ \hline (97647) \end{array}$$

197847

3.
$$\begin{array}{r} 545 \\ \times\ 247 \\ \hline 4815 \\ 1800 \\ \hline 1090000 \\ \hline (1096615) \end{array}$$

134615

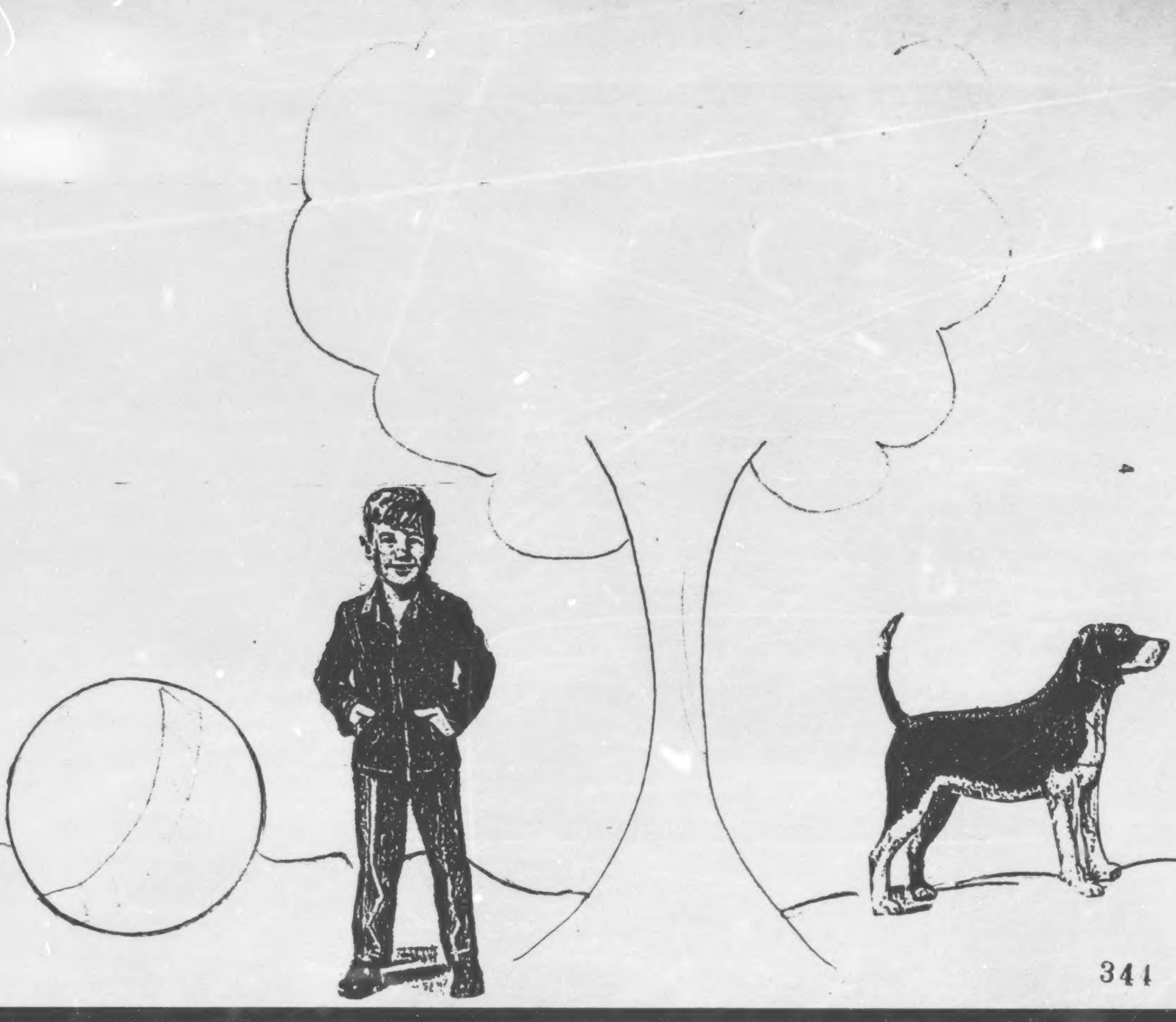
4.
$$\begin{array}{r} 247 \\ \times\ 45 \\ \hline 1245 \\ 9880 \\ \hline (100125) \end{array}$$

11115

5.
$$\begin{array}{r} 247 \\ \times\ 42 \\ \hline 494 \\ 9880 \\ \hline (10374) \end{array}$$

10374

The correct answers are written beneath the problem.



343

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ANSWER KEY

Error Pattern Analysis: Pre- and Post Test

Error Pattern Analysis (EPA) is an informal diagnostic technique for gathering information about the errors a child makes. When using EPA, the teacher examines the responses made by a child and writes a statement(s) in behavioral terms about the errors he has made.

Examine multiplication worksheet I.

int

1. The following are possible sources of error. Which one can be ruled out as a source of error on multiplication worksheet I?

   a. Attending to the task.
   b. Understanding the language of directions.
   c. Hearing adequately.
   [✓ d.] Writing numbers.

ints

2. Analyze Multiplication Worksheet I and write the major pattern of errors you find.

   Multiplication fact errors (8x7, 7x5).

   Errors in carrying (the child seems to forget to add in the numbers she is carrying).

   (If other responses appear logical to you, accept them. The key words are "major pattern.")

int

3. The following test items were presented to a child. The examiner shows the picture (see attached picture) to the child and reads the questions. The child is asked to point to the correct answer(s).

   a. Find the boy.
   b. Find the tree.
   c. Find the dog.
   d. Find the ball.
   e. Find the ones that are not a dog.
   f. Find the one that talks.
   g. Find the ones that are not a bed.
   h. Find the ones that do not talk and do not bark.
   i. Find the biggest one.
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These were the child's responses. Study them and write the major error patterns found in these responses.

a. Points at the boy.
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d. Points at the ball.
e. Points at the dog.
f. Points at the boy.
g. Points at all the pictures.
h. Points at the boy and dog.
i. Points at the tree.
j. Points at the tree.

The child does not understand the concept of "not".

int 4. Which of the following is not a step in error pattern analysis?

a. Identify the errors.
[✓ b.] Task analyze the errors.
c. Describe the errors.
d. Write a tentative conclusion.

int 5. Error Pattern Analysis can best be applied

[✓ a] to a series of similar tasks that have been completed by the child.
b. as the child is working.
c. by providing immediate feedback.
d. by marking correct responses instead of incorrect ones.

int 6. Error Pattern Analysis should be used

a. while you are alone with the child.
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[✓ c] along with several other diagnostic techniques.
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a. to become more familiar with the child's strengths and weaknesses.
b. to ascertain points at which consistent errors are made.
c. to try to isolate skills needing remediation.
[✓ d.] all of the above.

Systematic Inquiry: Pre- and Post Test

Systematic Inquiry is a process of restructuring subtasks in order to assess the amount and kind of assistance the child needs in order to do the subtask. If a child can't complete a certain subtask, the teacher can modify it so the child can complete it correctly.

Mark the following statements as True (T) or False (F).

oint 1. _______A Systematic Inquiry of items from a standardized test yields more specific information than the scores from that test.

oint 2. _______If you are analyzing items from a standardized test, you may assume that the Systematic Inquiry has the same validity as the test.

oint 3. When applying the process of systematic inquiry, the two rules to follow are:

a. When modifying a task, make the alteration as minor as possible and make only one alteration in a task at a time.
b. Make major alterations in the main subtasks but change as few subtasks as possible.
c. Do an error pattern analysis of the task and then make major alterations in the main subtasks.
d. Make at least 2 changes in every task and make the alterations after doing a task analysis of the objective.

oint 4. Which of the following is the first modification of #4 on Test 7, Level A, of the Wisconsin Tests of Reading Skills Development, that you would try?

a. Use an entirely different test.
b. Give the child the same test but arrange the items in a different order.
c. Give the child the same test but ask him to give a verbal response.
d. Give the child the same test but change the pictures.

int 5. A child is asked to spell orally the word "house". He does so incorrectly. What is the first modification (systematic inquiry) of that task you would make?

a. Give the child an incomplete sentence to read. Structure it so the word required to complete it is "house". Ask the child to read the sentence and complete it by writing in the missing word.
b. Ask the child to write the word "house" instead of spelling it orally.
c. Show the child a picture of a house and ask him to orally spell the word that correctly names the picture.
d. Give the child a sentence with "house" in it and ask him to point to the word "house".

ints 6. List three systematic inquiries (modifications) for the following task.

This is what the teacher says:

"Look at the example box...

EXAMPLE

d ①
m ②
t ③
b ④

I am going to read a made-up word to you. Listen carefully and decide which letter makes the beginning sound of the word. Ready? Tuv (love)... tuv. Which letter makes the beginning sound? (Wait for a response). Good. The letter t does, so fill in the circle beside t. (Pause) Now we will begin the test. Listen carefully to the words I am going to read to you. Decide which letter makes the beginning sound of each word and fill in the circle beside your answer. Ready?

This is the task analysis of the above task:

a - attend to oral directions
b - demonstrate an understanding of concepts in directions ("beginning sounds")
c - locate correct item
d - repeat stimulus word
e - isolate beginning sound
f - match letter sound and letter symbol (sound-symbol correspondence)
g - select correct response by filling in the circle

Systematic Inquiries:

1.

2.

3.

ANSWER KEY

Systematic Inquiry: Pre- and Post Test

Systematic Inquiry is a process of restructuring subtasks in order to assess the amount and kind of assistance the child needs in order to do the subtask. If a child can't complete a certain subtask, the teacher can modify it so the child can complete it correctly.

Mark the following statements as True (T) or False (F).

oint 1. T A Systematic Inquiry of items from a standardized test yields more specific information than the scores from that test.

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c. Do an error pattern analysis of the task and then make major alterations in the main subtasks.
d. Make at least 2 changes in every task and make the alterations after doing a task analysis of the objective.

oint 4. Which of the following is the first modification of #4 on Test 7, Level A, of the Wisconsin Tests of Reading Skills Development, that you would try?

a. Use an entirely different test.
b. Give the child the same test but arrange the items in a different order.
[✓ c.] Give the child the same test but ask him to give a verbal response.
d. Give the child the same test but change the pictures.

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c. Show the child a picture of a house and ask him to orally spell the word that correctly names the picture.
d. Give the child a sentence with "house" in it and ask him to point to the word "house".

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This is the task analysis of the above task:

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d - repeat stimulus word
e - isolate beginning sound
f - match letter sound and letter symbol (sound-symbol correspondence)
g - select correct response by filling in the circle

Systematic Inquiries:

1.

2.

3.

a. Ask the child to respond orally
b. Use cue words to gain the child's attention
c. Use a clicker to gain the child's attention
d. Change the language of directions
e. Write the directions instead of presenting them orally

(OVER)

f. Put a symbol by each box of responses so you help the child locate the correct item by saying, "Put your finger on the_____."
g. Model the task
h. Teach the child how to isolate beginning sounds
i. Put a cue picture above the letters of the sounds the child does not know (apple above "ă")
j. Reduce the number of choices
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(Systematic inquiries for any of the subtasks are acceptable as long as they are a logical modification of the subtask. Be sure they are modifications and not checks.)

Behavioral Objectives: Pre- and Post Test

oint 1. Why are behavioral objectives used?

- a. To assist in evaluating a child's progress.
- b. To assist in structuring a sequential prescriptive program for a child.
- c. To assist a teacher to evaluate her progress with a child.
- d. All of the above.

oint 2. What are the three components of behavioral objectives?

- a. Behavior modification, conditions, evaluation.
- b. Behavior, conditions, criteria.
- c. Counting behaviors, charting behaviors, evaluating.
- d. Who, what, where.

oint 3. Behavioral objectives should contain

- a. a statement that need only let the writer of it know when it is accomplished.
- b. a statement that describes desired learner outcomes in publicly observable behavior.
- c. a statement that allows the learner to assist in planning his own curriculum.
- d. a statement that is worded with enough flexibility to give its readers an opportunity to interpret it their way rather than the writer's.

oints 4. Write a behavioral objective. Include in it three components.

oint 5. Behavioral objectives should be stated in terms that are:

- a. directly observable.
- b. ambiguous.
- c. not directly observable.
- d. none of the above.

ANSWER KEY

Behavioral Objectives: Pre- and Post Test

int 1. Why are behavioral objectives used?

- a. To assist in evaluating a child's progress.
- b. To assist in structuring a sequential prescriptive program for a child.
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- [✓ d.] All of the above.

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- d. a statement that is worded with enough flexibility to give its readers an opportunity to interpret it their way rather than the writer's.

oints 4. Write a behavioral objective. Include in it three components.

Any behavioral objective is acceptable as long as it contains a statement of behavior (who did what), some conditions (when, where, how, etc.) and criteria (how well must it be done?).

oint 5. Behavioral objectives should be stated in terms that are:

- [✓ a.] directly observable.
- b. ambiguous.
- c. not directly observable.
- d. none of the above.

Learning Methods: Pre- and Post Test

oint 1. Which of the following is not a directive teaching procedure?

a. Get the child's attention.
b. Focus on two concepts at a time.
c. Program the child so he's correct in nearly all his responses.
d. Give the child positive reinforcement.

oint 2. Which phrase(s) describes a concept synonymous with the phrase "how to?"

a. Behavioral objectives.
b. Error Pattern Analysis.
c. Prescriptive Programming.
d. b and c.

oint 3. Barbara Bateman mentions four essentials of "clean teaching." Which is not one?

a. The teaching presentation is uncluttered.
b. The teaching presentation is unambiguous.
c. The teaching presentation is accurate.
d. The teaching presentation relies a great deal on previously learned material.

oints 4. List four learning principles.

oint 5. Explain the difference between a learning method and an educational material.

oint 6. Which phrase(s) is a description of intervention?

a. Prescriptive Programming.
b. Error Pattern Analysis.
c. Systematic Inquiry.
d. a and c.

Learning Methods: Pre- and Post Test

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c. The teaching presentation is accurate.
[✓ d.] The teaching presentation relies a great deal on previously learned material.

ints 4. List four learning principles.

a. One-to-one student-teacher interaction
b. Auditory-visual approaches
c. Multisensory approaches
d. Positive reinforcement
e. Peer tutoring
f. Directive teaching
g. Over-learning (practice)
h. Teaching only one concept at a time
i. Presenting uncluttered lessons
j. Presenting unambiguous lessons
k. Presenting lessons that don't rely a great deal on previously learned material, skills, etc.
l. Presenting lessons that are accurate
m. Presenting lessons that are broken into steps small enough to fit the child's learning style
n. Present lessons that contain tasks that are sequentially ordered
o. Use signal words to gain a child's attention

(OVER)

int 5. Explain the difference between a learning method and an educational material.

Learning methods are the how to teach and educational materials are the what to teach.

p. Entry level skills are specified
q. Provide for stimulus generalization
r. Correction procedures are incorporated
s. Modeling
t. Cueing
u. Prompting

(If other responses appear logical to you, accept them as long as they refer to a "how to teach" procedure).

int 6. Which phrase(s) is a description of intervention?

[✓ a.] Prescriptive Programming.
b. Error Pattern Analysis.
c. Systematic Inquiry.
d. a and c.

Matching Learner Characteristics With Material Characteristics: Pre- and Post Test

1. When selecting an educational material to use with a child, we must examine the ____________________________ characteristics and the ________________________ learning characteristics.

2. What must be considered when evaluating a child's learning characteristics?

   a. What does he need to be taught?
   b. Where does he need to start?
   c. What is the best way to present information to him?
   d. All of the above.

3. What proportion of learner characteristics and material characteristics must match before we can justify selecting a specific material to use with a given child?

4. How do we find out what a child's learning characteristics are?

5. List four principles to consider when evaluating a material to see if its characteristics match a child's learning characteristics.

ANSWER KEY

Matching Learner Characteristics With Material Characteristics: Pre- and Post Test

1. When selecting an educational material to use with a child, we must examine the material's characteristics and the child's learning characteristics.

2. What must be considered when evaluating a child's learning characteristics?

   a. What does he need to be taught?
   b. Where does he need to start?
   c. What is the best way to present information to him?
   [✓ d.] All of the above.

3. What proportion of learner characteristics and material characteristics must match before we can justify selecting a specific material to use with a given child?

   There is no pre-determined proportion. The evaluator must make this decision himself.

4. How do we find out what a child's learning characteristics are?

   Through formal and informal diagnostic procedures.

5. List four principles to consider when evaluating a material to see if its characteristics match a child's learning characteristics.

   a. What sensory modalities are used?
   b. What child response is required?
   c. Is there variety in presentations of the tasks?
   d. Are the tasks sequenced correctly in the presentation?
   e. What is the instructional/interest level?
   f. Is reinforcement provided?
   g. Is practice provided?
   h. How many concepts are taught in a lesson?
   i. How long is the lesson?
   j. What is the format?
   k. What kind of teacher-learner interaction is called for?
   l. Other.

   (If other responses appear logical to you, accept them. If the questions "What does it teach?" "Where does it start?" "How does it make provisions for learning styles?" and "In what way does it present the information?" are listed, ask the participants to be more specific.)

Additional Evaluation Procedures

Three further evaluation procedures may be used in place of, or in conjunction with, the pre- and post-tests. They are not replacements for the "process" evaluations which are completed after each module when the participants rate the module's relevancy, clarity and so forth.

The first procedure is to give each participant the objectives for each module and ask him to mark if the objective was met, was partially met or was not met.

The second method is to ask each participant, after he has completed all the modules, to write an individualized, educational program that is in compliance with the requirement of P.L. 94-142.

P.L. 94-142 states that a child's individualized educational program should include:

1. his present level of educational performance
2. the goals and short term objectives for him
3. the specific services that are to be provided
4. the starting date and expected duration of the services, and
5. the evaluation criteria that will determine if the objectives have been completed.

If participants have accomplished the objectives of the modules, they should be able to write an individualized, educational program that includes these five components. They could be asked to write the programs at the conclusion of the last module, while still at the workshop, or they could be asked to turn them into the workshop facilitators at a later date. With either option, they could write the programs for a current or recent student. This would help "bridge the gap" between the skills learned in the workshop and the participants' experiences with children in the real world.

The third evaluation method that could be used would be implemented several months after the workshop was completed. The workshop facilitators could send out a questionnaire to each participant and ask the participant and his/her supervisor to complete and return it. On the questionnaire, the participants and their supervisors would be asked to state concrete, specific examples of how they have changed something in their schools or classrooms as a result of their participation in the workshop.

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